Periodical

THE NATION'S SCHOOLS

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WAR SALARIES . . . . . *Richard R. Foster*

CONSTRUCTIVE TIPS ON SAVING FUEL
Elton R. deShaw

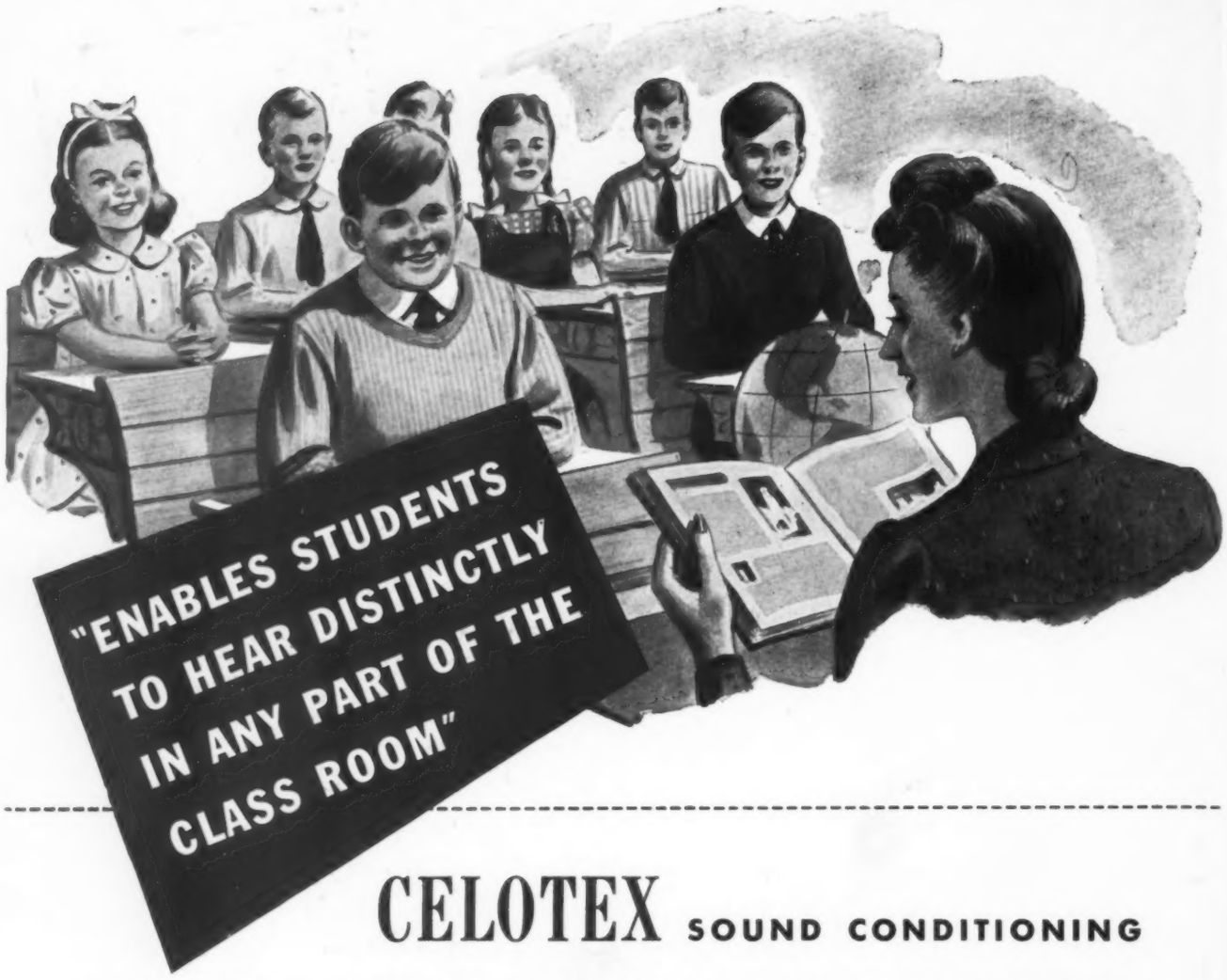
WE MUST TEACH PUPILS TO THINK
Harl R. Douglass

GIRLS, GRADES AND I.Q.'s . . . *Dean Lobaugh*

CONVENTION REPORT, N.A.P.S.B.O.

—— 25 Original Articles, 10 Regular Features ——

NOVEMBER · 1942



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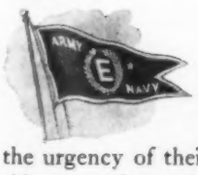

SOMEWHERE on the high seas, with engines throbbing in the urgency of their mission, grim gray ships press forward in spite of the deadly perils of sea and sky.

On the bridges and look-out stations of such ships, brave men stand alert, searching the horizon—on guard against enemy attack. These are the men whose task it is to fight our sea battles and protect the ships which feed your sons and your brothers, your friends and fellow workers—clothe and arm America's expeditionary forces—strengthen and aid our allies.

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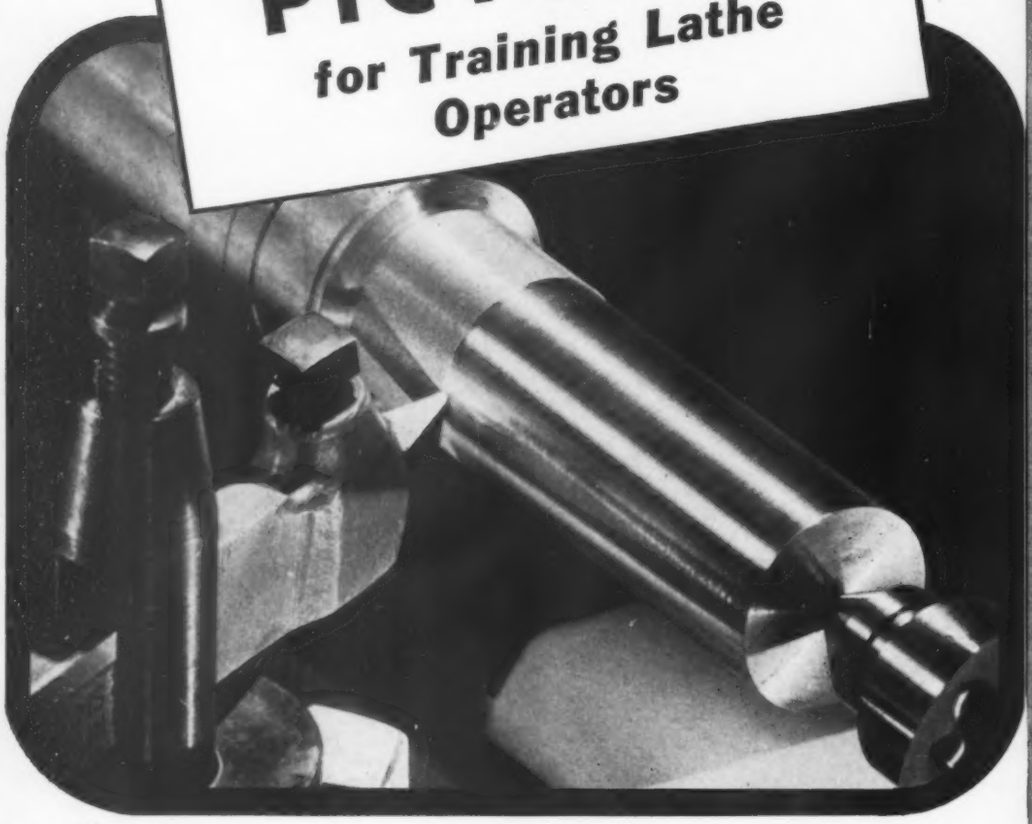

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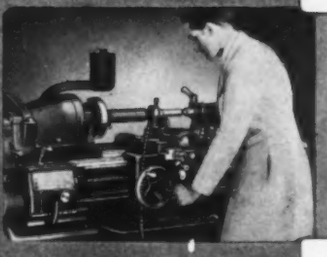

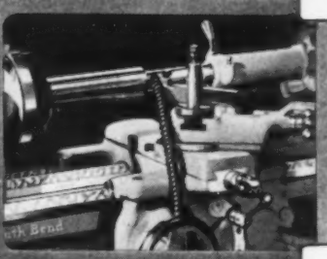

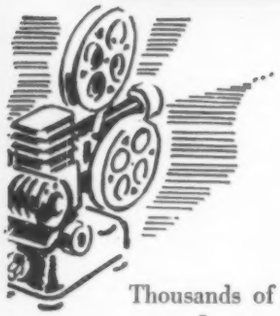

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THIS magazine has been a pioneer in promoting the use of color in schoolhouse interiors. Continuing the campaign the editors will present to administrators and architects in the December issue a treatise on color engineering by the outstanding industrial color consultant of the day. Watch for "Color Must Be Functional," a feature of the Schoolhouse Planning section.

USUALLY it is simpler for an editor to obtain noteworthy material on large enterprises than on small. To get material attuned to the needs of the small school, for example, requires considerable and persistent effort. There are exceptions: Witness the paucity of published material on the large school library. Next month the assistant librarian at Chicago's great Hyde Park High School will do her bit toward remedying that situation. She will point out some of the more serious handicaps under which the large school libraries operate.

"CHILD Accounting Goes to War" is an article no schoolman will pass by as he settles down to read next month's issue. War workers, draft boards, federal bureaus are coming to the school census files for necessary information—and are not always finding it. The lack of a national system of vital statistics makes school records significant. The chief of the bureau of attendance in Cleveland will tell how best to provide the needed service and how to improve on the past and present system of providing reliable child accounting information.

★ ★ ★

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AND WHEN IT COMES TO WALLS, it's likewise valuable to know why the swing is to Nairn wall linoleum. It lasts as long as the building, and will never fade, stain or dent. Wide range of patterns and colors! Nairn floor and wall linoleum have full guarantee when installed according to specifications.

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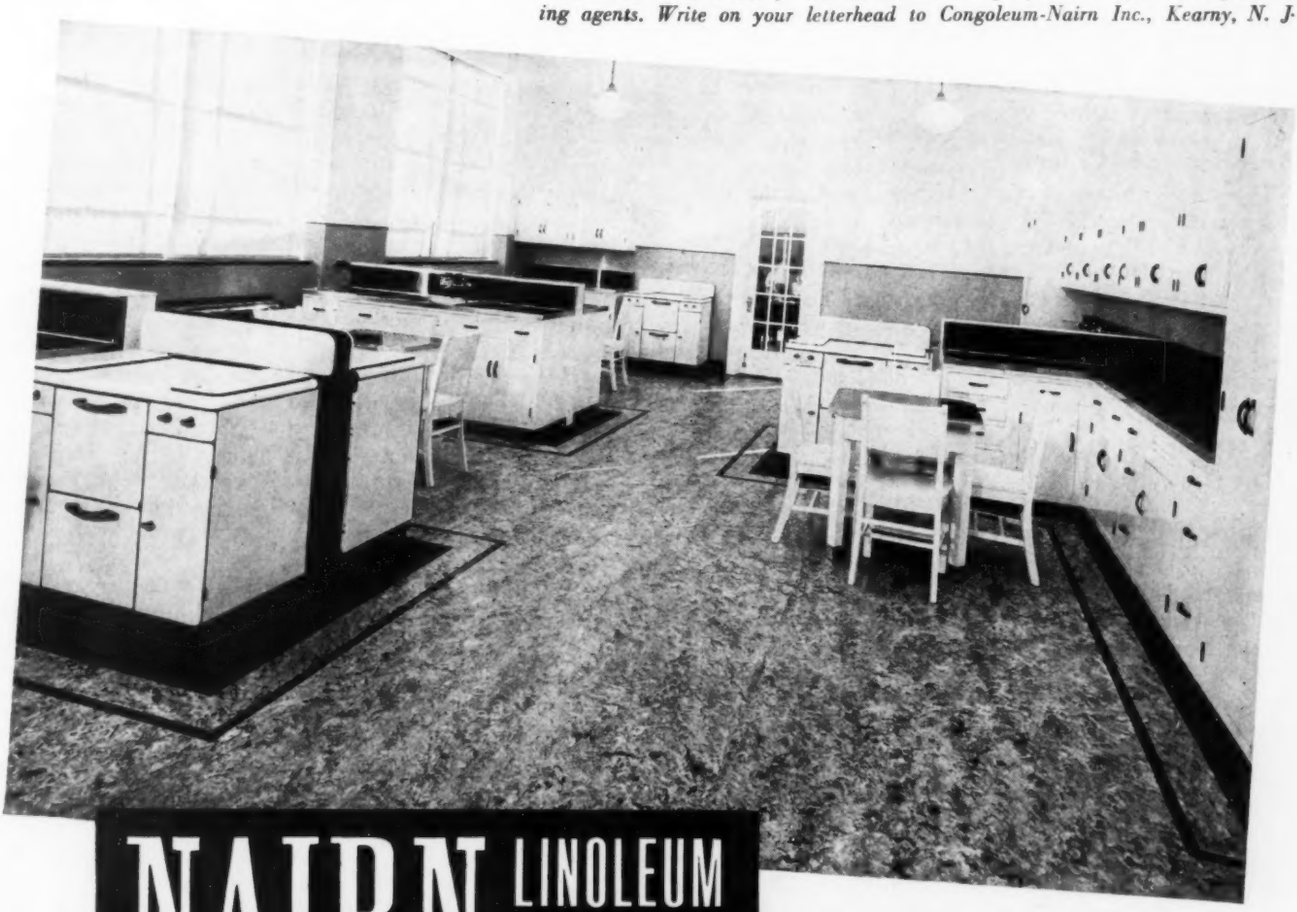

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BETTER PLANT PRACTICES

Findings on Fuel

Fuel is only one of the problems of school officials these days, but it is an important one in most sections of the country. Consideration must be given not only to the type of fuel that is best suited to local needs but to methods of obtaining the maximum results from that fuel; changes that must be made in the heating plant to reduce costs; to enlisting the cooperation of everyone, and to making all of the retrenchments that are possible at no sacrifice to school health and efficiency.

These matters are being carefully considered by business officials, as was evidenced in the sessions of the convention of the National Association of Public School Business Officials in Cleveland reported elsewhere in these pages. It may safely be said that never before have those in charge of school plants been better acquainted with their properties and more intent upon eliminating waste in every part of the school system.

Their Houses in Order

The general attitude of the school field is expressed by George J. Mehl, superintendent of buildings and grounds, board of education, Dubuque, Iowa. "There has never been a time when it was so urgent for all school executives to set their houses in order if we want to do everything we can to help the federal government win this war," Mr. Mehl states.

"This means that the whole personnel of a school district should cooperate to help save wherever possible, to do without and to make the best of what is available. It means proper budgeting and purchasing by the whole school system and a challenge to all employes to war against every form of waste.

"Some of the things that must be guarded against are careless handling of school supplies and equipment; improper handling and firing of heating plants; overheated rooms; badly adjusted temperature control systems; lights left burning unnecessarily, and water leaks in faucets, drinking fountains and flush valves.

"Attention must also be given to purchasing the right kind of fuel for the heating plant and keeping pumps, valves, traps, ventilating systems and temperature control systems in good working order. Educate the custodian to be more efficient in handling all school supplies and equipment. This can be accomplished by sending him to one of the short-term courses that are given at the different universities throughout the country."

Mr. Mehl describes his own policy of retrenchment as follows: "We are burning a good grade of southern Illinois coal in our heating plants—three sizes: 6 by 3, 1¼ by 2 and stoker coal. We are using every precaution not to put any extra strain on boilers by overheating them or making sudden changes in firing. The flues and boiler are kept clean at all times; drafts and temperatures are regulated accordingly; all boiler settings are kept air-tight to ensure proper combustion efficiency; all thermometers are kept in good working order, and room temperatures are reduced wherever possible, especially in gymnasiums, toilet rooms and playrooms. We are asking the cooperation of all pupils, teachers and personnel to help save wherever possible."

Montclair Experiments

These are days of experiments, some of which may find permanent place in the postwar plan; others may be discarded after the emergency is over. From Montclair, N. J., for example, Fred P. Reagle, assistant superintendent, reports one for which hopes are held. Time will tell.

Rice coal is used in most of the Montclair school buildings. The experiment in question is installing the necessary equipment to operate the boiler in one building on a so-called 20 hour firing basis.

According to Mr. Reagle, the new equipment is largely thermostatic with fire control handled through clocks which are so arranged that the fires are cleaned and the coal is put on only every twenty-four hours or thereabouts. The boiler doors are not opened in between.

"It looks as though there might be a material saving in fuel," Mr. Reagle believes. If such a happy condition develops a similar change will be effected in another building. These two schools, it seems, are operated by a man and a half, that is, there are three men for the two buildings. If the experiment works it may be possible to operate each school with one man, thus reducing the personnel in the two buildings and cutting costs still further.

35 Per Cent Savings in Spokane

The two principal types of fuel being used in the public schools of Spokane, Wash., John R. Sullivan, superintendent of buildings and grounds, tells us, are coal and the by-products of the lumber industry, consisting of shavings, sawdust and hogged fuel. "The latter types," he says, "are used in the three senior and two junior high schools where the volume of fuel used is large enough to justify the plant changes needed to utilize the products properly. Where the changes have been made we have effected more than 35 per cent savings over the use of coal, thus justifying the expense of plant alterations by paying for them within two years.

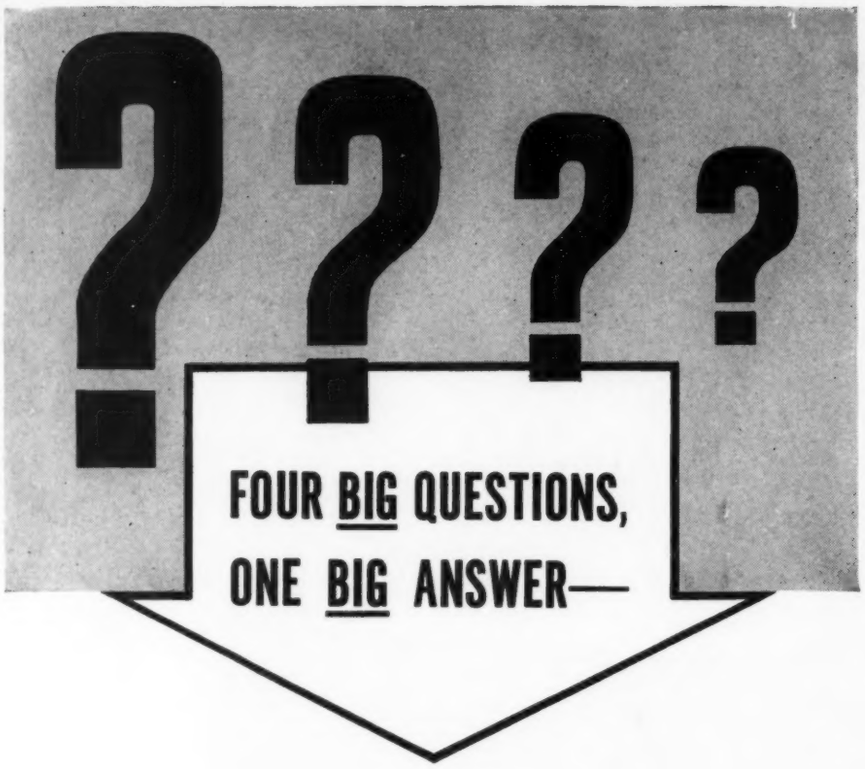
"In addition to these changes we have made it a fixed policy to calk window frames while exterior painting work is in progress and to tighten and weatherstrip the windows of our older plants to prevent excessive heat losses.

"To improve radiator efficiency we have removed all interference with convection wherever possible and are teaching our plant engineers the accepted principles of smokeless combustion and efficient heat transfer. The principles of firing and smokeless combustion enunciated in Bulletin 135 and Technical Paper No. 80 of the U. S. Bureau of Mines, as well as the method of smokeless firing, are consistently followed in our schools.

"Frequent checking of temperatures and the proper adjustment of automatic heat control devices, where installed, are made by the engineers under the guidance of a practically trained heating supervisor to avoid overheating wherever possible.

"Cooperation of pupils, teachers and other school personnel is encouraged and promoted wherever possible and we hope to have greater assistance from this source as a war-time effort."

Other methods of saving fuel are discussed by Elton R. deShaw, engineer of the University of the State of New York, Albany, in the Schoolhouse Planning section on page 34.



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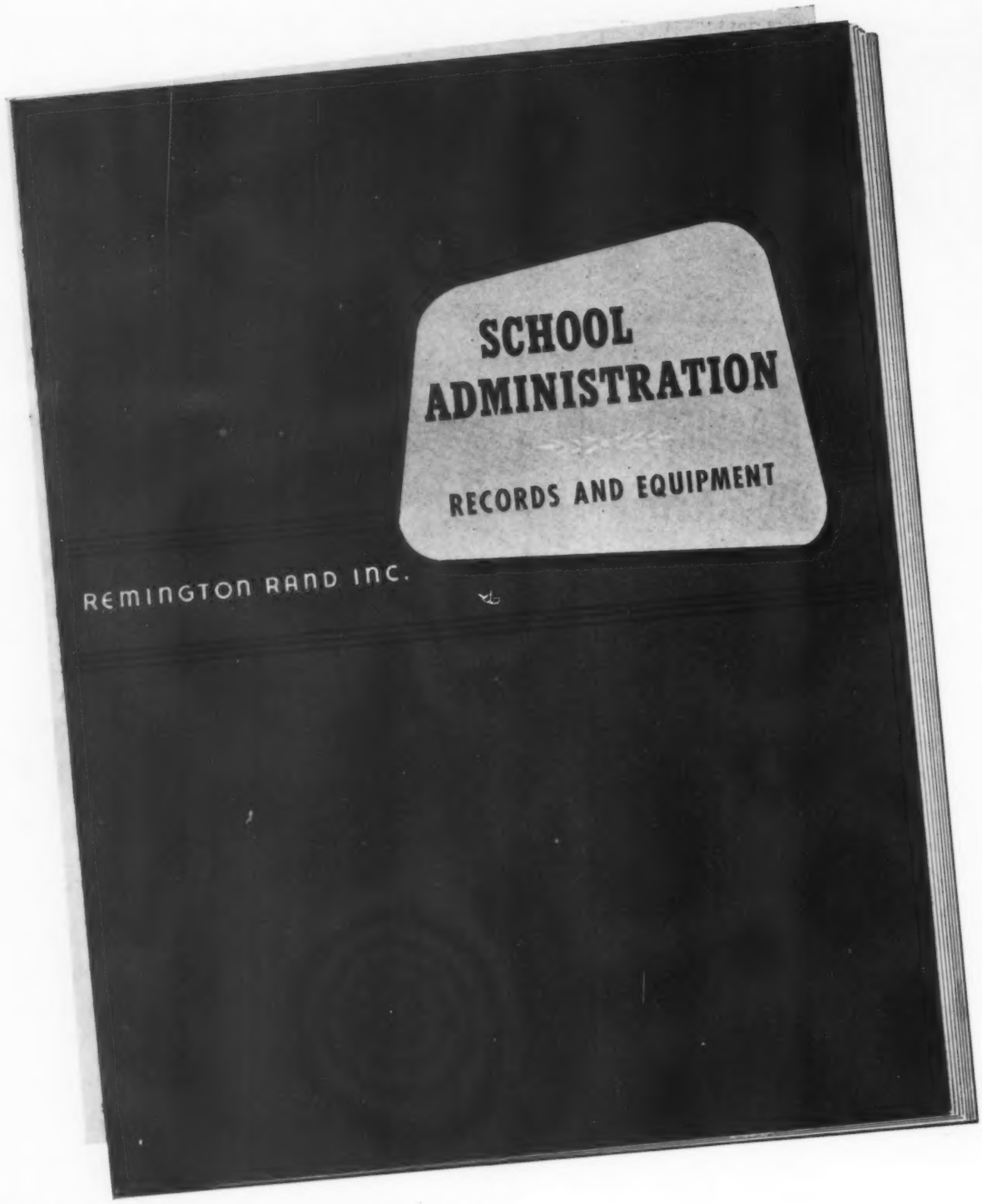

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Questions —AND ANSWERS

Length of Class Periods

Question: Which is more economical in a school of 700, an hour period (say fifty-seven minutes in the clear) without any laboratories, or a forty-five minute period (in the clear) with two extra laboratory periods for scientific subjects and straight double periods for industrial arts?—R.G.B., Ill.

ANSWER: There is considerable difference of opinion concerning this question, but it is my opinion that the more economical plan is the forty-five minute period with two extra laboratory periods and double periods for industrial arts. The hour period is too long for the ordinary academic recitation and is too short for industrial arts. While these long periods are supposed to be used partly for supervised study there are few cases in which such a plan of study is operating effectively. With the insistence upon more periods of physical education, the present tendency is for the shorter periods with a seven period day and in some cases an eight period day. It would seem that the forty-five minute period contributes to the flexibility of the program and is more economical.—CARROLL R. READ.

Refinishing Beech Floors

Question: We have a beech floor in an elementary school building that was finished three years ago. The finish was not satisfactory and has worn off. We should like to know how to go about refinishing this floor.—B.B.N., Ala.

ANSWER: No wood floor finish can be expected to hold up for three years. Floors should be given surface treatments two or three times every year. If they are rough or if the dirt has been ground into the raw wood, they should be machine sanded before refinishing.

If the original finish was oil and you wish to continue the oil treatment, I suggest that you scrub them hard with light thin oil; then mop up all free oil from the surface and wring out in a mop bucket. This method will clean the floors and re-oil them at the same time. When the scrubbing oil has settled, the top may be drawn off and re-used.

If you wish to establish a higher standard of floor maintenance, I suggest one of the seal finishes. It probably will be necessary to clean your floors before applying seal, especially if they were originally oiled. Much will depend upon the condition of the floors. Beech swells easily, so do not allow the boards to soak up much water. Dry cleaning may be safer. After the floors have been well rinsed, dried and buffed, apply one coat of penetrating seal (two coats if it is the first time seal has been applied), buff lightly and apply two coats of water emulsion wax. If a hard nonslippery surface is preferred, use one coat of surface seal instead of wax.—RAY L. HAMON.

Petty Cash Fund

Question: How is it best to handle small bills that must be paid in cash?—H.R.H., Mo.

ANSWER: Each school should have what is called a petty cash fund. In Florida this cannot exceed $25. The person who expends the money (the principal) gets a receipt for every expenditure. For example, if he buys a dollar's worth of stamps, he gets a receipt for the stamps. When he has expended all or practically all of the money, he turns in the receipted bills and is then entitled to another advancement. A complete accounting, of course, must be made at the end of the year when all petty cash accounts are closed out.

A similar plan can be followed for petty cash accounts in the office of the county or city superintendent.—EDGAR L. MORPHET.

Encourage Parent Participation

Question: What methods are most successful in enlisting active parent participation in P.-T. A. functions and in developing parent leadership v. teacher domination?—A.H.N., N.Y.

ANSWER: The question partially answers itself. Active participation is the best means of developing parent leadership. Parents should hold the major offices in the organization. They should assume large responsibility for program planning. Speeches designed to tell the parents what to think and do should be supplanted by programs in which parents and teachers cooperatively and informally discuss practical and pertinent problems.

The grade group meeting in which the teachers and parents of a single age or grade level meet together has proved to be a highly effective technic. Wide parent participation can be achieved by means of a room mother organization. These mothers can assist in determining the problems around which interpretive programs can be organized. They can act as guides for visitors in the school system. They can assist in arts and crafts laboratories, in libraries and in office activities.

When the interest of parents is once aroused there are no limits to the possibilities of effective participation. Ultimately, it can be expected that parents and teachers will cooperate in all areas of curriculum planning and evaluating. Thus, through participation, will parent leadership be developed and the opportunities for professional services be greatly extended and enriched.—PAUL J. MISNER.

Buy U. S. Bonds

Question: Through the collection of delinquent taxes, our board of education has been able to set up a building sinking fund. We have about $27,000 invested in certificates of deposit. Will you advise us as to the best investment for this amount at the present time?—J.K.C., Mich.

ANSWER: I know of no safer investment at the present time than U. S. Bonds and the only advice I am currently giving is that all surplus public funds be invested in this type of security. You are not only maintaining safety with respect to principal investment, but are securing a reasonable return and, in addition, you are helping to promote the war effort. This combination of factors should appeal to any board of education.—A. B. M.

How to Preserve Textbooks

Question: What is the best practice for preserving textbooks in use?—C.V.E., Pa.

ANSWER: 1. Use properly fitted book covers.

2. Use mending material, such as mending tape and T bindings.

3. Have teachers supervise and inspect books at regular intervals during the school term.

4. Instill in the pupil a feeling of responsibility for public property.—H. W. CRAMBLET.

Soundproofing the Band Room

Question: What is the best method of soundproofing the band room? We have installed a "new wood" ceiling but that does not prevent the noise from reaching the elementary grade room above.—R.G.I., Minn.

ANSWER: It will be necessary to reduce the noise level in the band room to approximately 40 decibels or the equivalent of noise at a moderate intensity. The ceiling you have installed has a noise coefficient of .30 for ½ inch thickness and .35 for 1 inch thickness. We suggest that you add sufficient absorption units to the sidewalls of the room to bring about the desired correction. You can obtain materials that have as high as .90 noise coefficient.—R. V. L.

How Schools Are Keeping the Pace in Wartime

Four big problems face the schools of America in these war days.

. . . a shortage of teachers
. . . larger classes and increased teacher burden
. . . greater emphasis on vocational training
. . . increased wartime activities, during and after school hours.

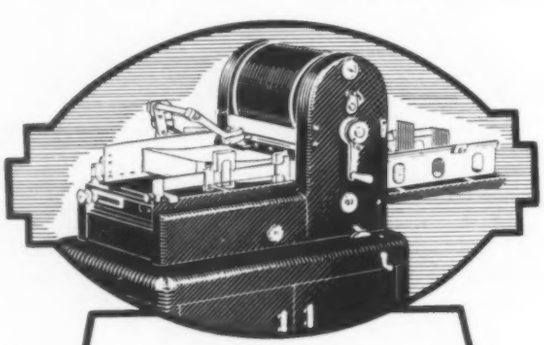
In spite of the increased load, schools are forging ahead in their part in the Victory Program. Many of them have found helpful solutions to their problems with Mimeograph duplicators and their integrated stencil sheets and inks.

Mimeograph duplication means more time for teaching, more freedom from classroom routine, more hours for the extra activities demanded in wartime. It is the quick, economical way to keep classroom materials up-to-date, produce materials needed for projects and programs where textbooks are not available.

Make sure your Mimeograph equipment is doing all it can to help. Telephone the Mimeograph distributor in your community for assistance, or write A. B. Dick Company, Chicago.

• • •

All-purpose Mimeograph duplicators are working for and with schools throughout the country. Model 92 is shown at left.



Mimeograph duplicator

Mimeograph is the trade-mark of A. B. Dick Company, Chicago, registered in the U. S. Patent Office.

LOOKING FORWARD

Know Our Allies

THERE is increasing evidence that the not too subtle propaganda of the totalitarian powers to promote misunderstandings and rifts among the United Nations is beginning to bear some fruit. It is unusual to participate in group discussion without hearing sharp criticism of British, Chinese and Russian war effort and internal politics. Part of this is merely the customary habit and presumed right of the American to criticize anyone and anything, and the closer an individual or nation the more this right is exercised. Much of this divisive criticism has unconsciously been generated out of ignorance or through the deliberate sowing of seeds of doubt by American isolationists, fascists, anti-administrationists and undercover Axis agents. Some of it is derived from enemy short-wave broadcasts.

The general tenor of these negative and destructive criticisms is that American war policy is being determined by Churchill in the selfish interests of the Tories and Imperialists. China, most lightly criticized, will ultimately turn against the white race to dominate the world. The South American nations will sell us out to the highest bidder. Russia will attempt to bolshevize Europe and the world, destroying religion, political democracy and free economic enterprise in the process. The Free French are willing to let us fight their battles. The military efforts of our Allies are puny, stupid, misdirected and ineffective. The United States is the only nation truly exerting itself and about to make unnecessary sacrifices for the rest of the world.

This criticism grows out of ignorance of our Allies, their economic and military problems, their actual efforts and their true sacrifices. If the United Nations are to win the right to remain free men, then, the members of this democratic alliance must better know and better understand their allies. National radio and motion picture programs are doing a fairly good job of adult education. Much more could be accomplished in the creation of understanding and confidence if the public schools would seriously analyze the destructive propaganda that is affecting the immature and provide intelligent counterpropaganda to clarify misunderstandings and create closer relations.

This suggestion does not mean that it is necessary to approve of British imperialism or of Russian socialism. If the position of these nations is thoroughly understood and the fundamental aims of their peoples known, it might develop that the people of China, England, Russia, South America and the United States are much closer in their ideals and attitudes toward life than destructive Axis propaganda might lead us to believe. Information and material can be easily obtained from the Office of War Information in Washington. The time is short; the battle is fierce. Victory can come only through closer collaboration among the United Nations. It is important that we know our Allies.

Efficiency Needed

AT A time of national and educational crisis, such as the present, every state department of public instruction and every school district is constantly in need of accurate and timely statistics concerning enrollment, changing membership, trends in child and youth employment, shifting school population, teacher production and demand, salary conditions, budget trends and many other important items. Collection and publication of this vital information is the legal responsibility of the U. S. Office of Education.

Much information is collected biennially but it requires at least one and generally two years before tabulation is completed and the data are published in bulletin form. Late publication destroys the value of these reports except for reference and archival purposes. Regrettable as the fact may be, the only available current information concerning public education is that collected by private agencies, such as the American Council on Education and the research division of the National Education Association.

It is not difficult to understand the reasons for this shortcoming in the Office of Education. While other federal executive agencies have long since streamlined their methods of gathering and tabulating information, the educational agency not only still persists in its conventionalized methods of gathering information every two years but also retains the outdated method of hand tabulation of these gigantic statistical returns! In fact,

the Office of Education appears to be the sole remaining federal agency that does not use the more rapid and accurate method of machine tabulation.

To periodic inquiries by federal agencies as to why machine tabulation has not been employed, the disarming answer has been given that "educational statistics are not susceptible to machine tabulation." No one has yet been able to determine why educational statistics possess this unusual peculiarity. In the meantime, the public schools work in the dark or on wide guesses that are based on partial, inadequate information.

Schools close every June. There is no reason why complete information cannot be ready for publication two months later. The Departments of Agriculture, Commerce and Labor do excellent jobs of spot reporting. It is perfectly reasonable to assume that similar procedures can be employed in public education.

One of the vital needs is for accurate, up-to-the-minute educational information. Furnishing this information is the legal responsibility of the U. S. Office of Education. If it is impossible to meet this responsibility with current personnel and current procedure, the times call for some drastic reorganization in collection and tabulation methods. It is high time that the teaching profession demanded greater efficiency from this federal agency.

Vocational Flexibility

IT HAS been assumed by many educators that under the Nazi plan for mass vocational education the public school taught detailed and final skills. This assumption is far from true. In the first place, practically all of the detailed vocational training is given in special workshops within the factory and too much specialization is carefully avoided even under these "practice-life" conditions. The Nazi vocational specialists apparently have a clear vision of the implications of the power age and are not falling into some of the errors of the American vocationalists.

Commenting on this phase of Nazi education, George Frederick Kneller in "The Educational Philosophy of National Socialism" states: "Even in the comparatively remote field of the training workshop in a factory, the instructional methods and aims conform absolutely to the national standard. Too much specialization is to be avoided if it interferes with general knowledge and skills. In the National Socialist view, specialization in modern work requires a versatile, skilled worker who is in a position, thanks to a thorough grasp of the fundamentals of his profession, to progress in the sphere of more differentiated work. Specialized training is depreciated because 'it tends to jeopardize the versatility of apprentices.' The workshop teacher must have more than the mere ability to teach requirements; even here the philosophy of teacher-training holds good."

This brief description of German philosophy and practice is not intended to apply to the adult emergency training programs for specialized war production skills but rather to current practices and trends in federally subsidized secondary vocational training. American vocationalists might do well to read carefully Walter N. Polakov's "The Power Age," which appeared in 1933 and from which the Nazi educators are said to have drawn many of their ideas for vocational training.

Schools Need Buses

CONSIDERABLE discussion at state and regional summer educational gatherings developed over the statements by certain federal officials that the future for public school transportation looks bad. It has been stated authoritatively that present buses will not be replaced when they wear out and that the outlook for new tires is also poor.

Most school bus transportation is essential to bring rural children daily to their community secondary schools. Consolidation of inefficient one room school districts has made transportation as essential a part of the school program as the school plant itself. In states of large distances and light population like California, Texas and Utah, it would be impossible to maintain secondary schools without bus transportation. In many others it would be difficult to get along without transportation.

The operation of our public schools and the maintenance of individual educational opportunity are just as essential in this war for freedom as is the building of airplanes, guns, ships and tanks. The only means of developing democratic competence to understand and to use the freedom for which we are fighting is through continued, enlarged and improved public education.

Let no one—federal or state official, Army colonel or Navy captain, college president or layman—say that public education is a luxury in war time. Public education is the first line of internal defense. The public schools are entitled to essential priorities that mean something when it comes to purchasing needed supplies and equipment. School busses and tires are among these essentials. To deny them to the schools is to deny thousands of rural children their educational birthright.

The public schools need buses, tires and gas. They should have them. If obstacles arise to curtail these essentials unnecessarily, take the problem directly to your community and make adequate representations to your congressman and senator. The schools must go on. The parents of children will see that they do go on. Let's not repeat the mistakes of the British.

The Editor

Scheduling Teachers' Salaries

ARTHUR B. MOEHLMAN

THE supreme and only purpose of education is instruction and all educational organization should be pointed and developed on the theory that teaching is the most important activity and that there is no higher position than that of teacher. All efforts must be bent on obtaining better prepared and more capable teachers. Only as the prestige of teaching equals that of administration can our schools become truly functional. There is no theoretical validity in the assumption that the superintendent or principal is a more valuable agent than the teacher. Administration is essentially a specialized service activity.

As the teacher grows in competence and mastery, conventional organizational practices will change. The superintendency is already moving from the managerial concept of 20 years ago to the idea of coordination and leadership, a colleague relationship between two specialized services. The principalship in similar manner will represent temporary assignment to duty in specialized service. If the schools are to become truly efficient, it will be as a result of better classroom teaching and not because of more involved and complicated administrative procedure.

So long as the highest monetary rewards are paid for nonteaching services, teaching will remain an inferior service fiscally and psychologically. If the teacher is to attain his rightful position of importance in the total instructional process, provision must be made for recognition of value in rewards paid to teachers. Under this concept, salary schedules must reflect the importance of the teacher and must also reward superior effort. Careful consideration of the following factors is essential to a truly functional method of granting rewards:

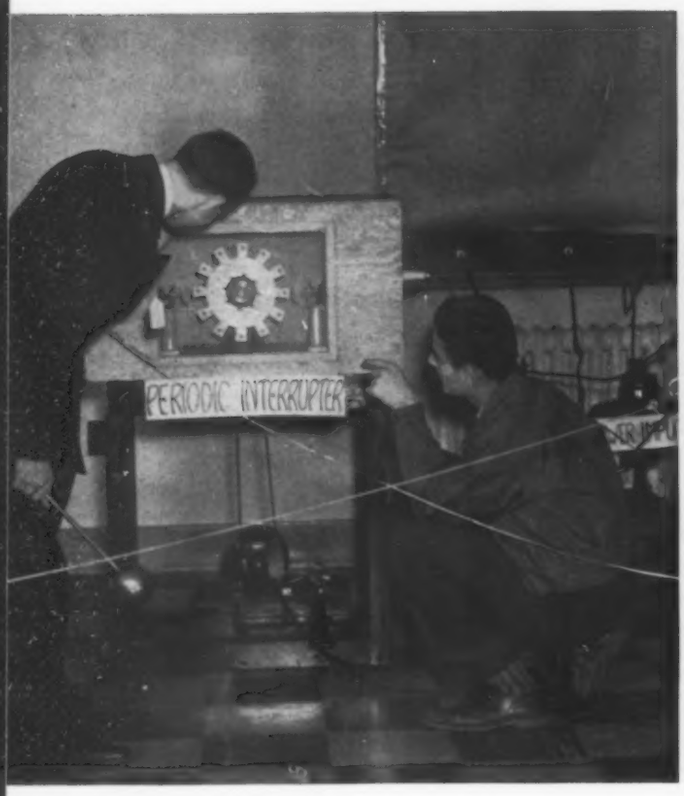
1. The educational process should be considered the sum total of all those activities that are included in the total curriculum and that contribute to the physical, mental, social, emotional and spiritual aspects of personality growth. There should be no "extras." In like manner, the work of teachers must be considered as a totality. It is difficult to justify a low salary for a full day's instructional program and then add "extras" of from 10 to 25 per cent for "extracurricular activities." Such practices are dangerous to the whole teaching concept. The public does not understand "extras" and is not enthusiastic about permanent "overtime."

2. The community educational process should be an unbroken unity from preprimary years through the fourteenth year of secondary education. Subdivisions of the process into elementary and secondary divisions are merely mechanical administrative devices. All parts of the educational process are relatively as important as any other part. Salary differentials for secondary over elementary school teachers cannot be justified. Teaching skill may be initially measured by technical preparation and initial salary schedules based on years of general and professional preparation.

Technical preparation, plus teaching experience, results in individual growth and greater technical competence under normal conditions. A period of partially or completely automatic increases may be logically provided within a seven to ten year span. Teachers differ greatly in capacity and it is possible to determine administratively incompetence, inferiority, mediocrity and superiority. Since the salary schedule is a most important instrument in maintaining teaching efficiency through reasonable rewards for superior service, it is both logical and sensible to provide for special merit increments beyond the period of automatic increase. The total combination schedule may be classified as the preparation-development-merit type.

3. There is no justification within our democratic pattern for any wage principle except that of "equal pay for equal work." There is no more validity for a sex salary differential than for a racial or religious differential. The argument that "special rewards" must be paid to male teachers is really based on the traditional exploitive theory of teacher wages that gained considerable strength and acceptance in the 1860's. Women teachers were to be hired as cheaply as possible and "extras" provided to retain male teachers. The exploitation theory as it applies to women teachers has been held much too long by superintendents and boards of education. That concept belongs with the dinosaurs. If the community salary schedule provided adequate rewards for adequate service, teaching rewards would be sufficient to attract and to hold superior men.

4. The act of marriage and of rearing children is a personal affair that should never be confused with teaching service. If the state believes that the stimulation of biological reproduction is essential to the national welfare, it may properly reward *all* individuals independently for achievements of this nature. To single out certain professional and nonprofessional groups for special consideration is class legislation and is untenable as a democratic principle. Fiscal rewards for procreation should not be confused with payment for teaching service. There is no correlation between efficient teaching and the number of children sired. Teaching salary schedules should recognize and reward total teaching effort only!



SCIENCE *Steps Forward*

The annual science fair at Rochester, N. Y., brings out the scientific talents of the youngsters of the community and also proves that adults can and will work together for the benefit of children

PAUL E. SMITH
ASSISTANT IN SCIENCE
ELEMENTARY EDUCATION
ROCHESTER, N. Y.

"BUT listen, I tell ya, I ain't got no power!" It was setting-up day for the annual science and engineering fair at the Science Center in Rochester, N. Y. In the course of arranging some of the exhibits, the owner of a homemade airplane detector discovered that his apparatus had been moved away from an electrical outlet. Hence, the plaintive outburst to one of the committee members, "I ain't got no power!" The director of the Rochester Library, standing near by, slowly shook his head. "The whole world revolves around this boy's airplane detector," he said, "and he ain't got no power!"

In another part of the auditorium two boys were setting up apparatus which one person described as looking "like a trip on Mars." To the boys it was all very simple—merely gadgets necessary to operate a high frequency Oudin coil (pronounced "wedah," as they told us on their entry blank). This exhibit had been in the making months before the fair, and there were difficulties all along the line. At one time the boys decided they needed 80 gallons of transformer oil. But when they learned it had an A-1 priority rating, they compromised on 5 gallons they could borrow. A few weeks before the opening day, the boys inspected the building and informed the committee that they would need about 80 amperes of 220 volt electricity. The committee gasped and quietly asked where they expected to get it, when all the outlets were fused for 15 amperes on 110 volt lines.

"Oh, that's all right," they said, "we talked with the superintendent of the building and he's going to let us run a cable from the main switchboard, over the roof, in through a window to the room."

"And where are you going to get the cable?" we asked, knowing that heavy rubber-insulated copper wire also ranked high on the priority list.

"We'll get it," they said. They did, too, after a personal interview with the president of the local electric company. They also talked the president into sending a man to inspect the wiring before the current was turned on. The wiring passed all inspection and on the day the fair opened the current was turned on. A blinding flash of 600,000 volts jumped from the top of the coil—and the elevator in the building jumped an inch. "A feed-back," the

Right: The high school junior who presented this exhibit had "carried through to a finish an undertaking of his own planning and workmanship sufficiently well done to be included here." Opposite Page, right: With the aid of the president of the electric company, the building superintendent, transformer oil, miles of wire and hours of work, a 600,000 volt spark jumped from the coil at the left. Left: "Periodic interrupter" refers to the current generated, not the effect on elevator service.

boys explained; "the high frequency is going back through the cables and affecting the tubes on the automatic floor-leveler." So it was a choice between artificial lightning and elevator service. We were on the third floor. There was no more lightning.

Another boy appeared at the fair with two exhibits—one a homemade apparatus for taking photomicrographs. It was complete with a worm gear to ensure true level, a photo-electric cell to measure light intensity and a galvanometer to hold exposures constant. The photographs were taken through a camera he had obtained for 15 cents and a tooth paste carton. "You don't need a good camera," he explained. "The image is focused by the microscope and this camera holds the film as well as any. So I just took the lens out of it."

His other exhibit was titled "Histogenesis of the Blood Cells." It was a display of the eight cells found in normal blood, tracing their origin back through intermediate cells to the two ancestral cells made in the bone marrow. All cell models were made of plaster of paris and colored according to the accepted histologic stains. "We can't be sure that these are the only intermediate cells," the boy said. "There may be some more, but these are the important ones."

This display, incidentally, had been used as demonstration material in the histology classes at the university medical school. The boy who made both this and the photomicrograph equipment is a 10 year old fifth grade pupil. He is a normal freckle-faced youngster, normal even to the extent that the pockets of his corduroy knee trousers contain a knife, tacks, screws, buttons, a few pennies, some wire and a guppy embedded in paraffin, ready to be sectioned on a microtome, which he has also made.

Altogether some 200 boys and girls under 19 years of age built and set up 100 exhibits for the Rochester Science and Engineering Fair. The fair was divided into five sections: biological sciences, chemical sciences, physical sciences, earth sciences and social economics. The exhibits covered an almost unbelievable range of interest and ability. There were gas-engine airplanes, two kayaks and an automobile made out of everything except auto parts—and it ran. One boy built a model rayon manufacturing plant that actually produced rayon. Another group had on display a homemade Link pilot-trainer that went through all the motions of a real airplane.

A girls' science club exhibited a display illustrating the manufacture of synthetic rubber. Another exhibit showed the working of a magnesium thermite bomb. There were a model water purifying system, an apparatus for a new method of manufacturing nitric acid, a complete exhibit showing inheritance in fruit flies and another demonstrating the embryology of the chick. The boy who entered the inheritance exhibit knew he wouldn't be present when the judges inspected the fair, so he provided a record of his own explanation.

The science and engineering fairs are sponsored by the Rochester Science Center, composed of individuals and representatives of various scientific societies, clubs and groups, banded together for the purpose of promoting scientific pursuits by the youths of the near-by counties. The center also cooperates with Science Clubs of America, an association of clubs sponsored by Science Service of Washington, D. C.

Among organizations represented in the Rochester Science Center are the chamber of commerce and junior chamber of commerce, Rochester Engineering Society, the Rochester section of the American Society of Civil Engineers, the Museum of Arts and Sciences, the University of Rochester, the American Institute of Electrical Engineers, the board of education, the parent-teacher association, the council of social agencies and the Monroe County regional planning board. The three local radio stations and the two newspapers supply fine news coverage.

Through the Science Center arrangements are made for boys and girls who demonstrate interest and ability along scientific lines to work in activity groups under the guidance of scientists in the university and in Rochester industries. One group, interested in radio engineering, works with the engineers of a local radio distributing firm; others work with engineers from a radio station. One lad, under the guidance of a medical school scientist, carried on advanced research in leprosy. Several have progressed far in genetic research. Another boy, experimenting with plastics, succeeded in arranging for an industrial research man to come to his own home weekly. A small group studied new methods of preserving and mounting the arterial and venous system at Ward's Natural Science Establishment.

The Science Center also sponsors an interhigh science club, in which membership is regarded as an honor.

The annual fair is a logical outlet for work done during the year, and young people from Rochester and 10 surrounding counties, regardless of school affiliation, are invited to participate. The fair also provides financial aid by awarding cash prizes that must be spent for the furtherance of scientific work. This year a cash prize of $50 was given as a grand award.

Other prizes included $4 awards for the best individual exhibit in each section and $6 for the best group exhibit in each section. An additional award of $5 was presented by an engineering society for the best exhibit in civil engineering. Another engineering society agreed to present a $25 war bond for the best exhibit in engineering. This prize went to the exhibitors of the artificial lightning, and when it was found that two boys were involved, the society immediately presented bonds for both boys. The university also made available a scholarship for the boy or girl who, in the opinion of the officers of the Science Center, showed the greatest promise of profiting in scientific study.

After three years, the science and engineering fair has come into its own in Rochester. It is now regarded as an annual community project. The last fair held in the local library building was attended by approximately 10,000 spectators, many of whom were amazed and delighted at the work of the youngsters. The fair received the support and cooperation of almost every organization represented in the Science Center, and it is demonstrating that various groups within the community can and will work together for the benefit of youth.

LINK TRAINER
This trainer will carry out all the motions of a plane in flight. These motions are brought about by a 50 lb. fly wheel driven at 2,000 RPM. The plane of rotation of the fly wheel is changed with the action of the controls
PAINTED POST SCIENCE CLUBS

Not the least of the benefits of the fair are the interest and enthusiasm of the young visitors who pore earnestly over exhibits of Link trainers, model airplanes, sailboats, horticulture and histogenesis of the blood cells.

WAR SALARIES

☆ *In contrast with the views expressed by Lionel De Silva in the September issue, Mr. Foster urges that teachers' incomes be adjusted so that they will be in proportion to those of other occupational groups*

RICHARD R. FOSTER

ASSISTANT DIRECTOR OF RESEARCH
NATIONAL EDUCATION ASSOCIATION

THE point of view has been expressed in certain quarters that teachers, instead of campaigning for salary increases commensurate with recent rises in living costs, should patriotically eschew all thoughts of such increases for the duration of the war. This article undertakes to present a somewhat different attitude.

Some persons who oppose increases in teachers' salaries contend that the enormous demands of the war program make it necessary to cut state and local government expenditures to the bone. Others seem to base their opposition chiefly on the fact that any widespread increase of consumer purchasing power in the face of rapidly dwindling supplies of goods and services is conducive to a dangerous inflation. Since civilian commodities are no longer as plentiful as in normal times, the public generally is bound to experience a reduction in standards of living. Hence, it is argued that the current attempts by teachers and other groups to maintain or to raise their standards of living through wage increases are selfish and detrimental to the national welfare. A few people, aware of the loyalty and idealism of the educational profession as a whole, would have teachers set a shining example by definitely opposing higher salary scales for themselves *without waiting for other occupational groups to adopt such a policy.*

The contention that the United States is too hard pressed financially to maintain an efficient school system during the war is not supported by a reasonable interpretation of the facts. According to the Department of Commerce, our total national income rose from about $77,000,000,000 in 1940 to nearly $95,000,000,000 in 1941, and by the second quarter of 1942 it had reached an annual rate in excess of $112,000,000,000. It is true that financial requirements of the war program have been increasing more rapidly than has national income—so rapidly, in fact, that it is quite impossible to meet them out of current revenue alone. However, as long as large-scale borrowing is considered necessary and feasible for military purposes, the use of a moderate amount of borrowed money for such an essential service as education should not be deemed unwise.

Let us remember that the fight for freedom will not be permanently won when a military armistice is declared. Millions of children now in school will help to win or lose this fight by the kind of world order they have learned to believe in and by the knowledge and skill that they can bring to the task of building and maintaining the new order. They are not likely to develop the necessary convictions, knowledge or skills unless their schools today are staffed with competent, adequately paid teachers.

The inflationary character of substantial and widespread increases in income under present conditions is not to be denied. But the recommendation that teachers lead the way by foregoing all salary increases regardless of what other groups do impresses me as being socially unsound. While there is urgent need for the stabilization of wages and salaries, such a policy should be applied fairly and consistently among all occupational groups. If the new stabilization program of the federal government permits wages and salaries in other low-paid occupations to be adjusted in accordance with recent increases in living costs, similar adjustments should be permitted in the salaries of teachers. Moreover, teachers as a group should consider it a professional duty to seek such adjustments.

If American education is to contribute as it should to winning the war and the peace to follow, the schools must at least maintain their prewar capacity to compete with business and industry for the services of capable personnel. This will be impossible if the economic status and working conditions of teachers are permitted to deteriorate more rapidly than those of workers in business and industry.

I do not argue for the maintenance of present living standards in the face of the war emergency. Neither do I plead for special favors to teachers. The thesis of this discussion is that there should be fair treatment of all groups and that *essential* social services should be kept at a high level of efficiency throughout the war.

Let us require teachers (like everyone else) to buy more war bonds, if necessary, but let us also insist that the incomes of teachers be adjusted in proportion to those of other important occupational groups and that other conditions affecting teacher welfare, including provisions for retirement, tenure and teacher load, be maintained so that the teaching profession can make the maximum contribution to the national welfare.

Education for FREEDOM

HORACE M. KALLEN
NEW SCHOOL OF SOCIAL RESEARCH
NEW YORK CITY

SOMEWHERE in the world there have always been free men. But as we count historic time, their numbers, until recently, have been small. For the most part, they were warriors and priests, and the token of their liberty was the sword, the spear or other weapon they alone could lawfully carry.

When the Continental Congress, 165 years ago, proclaimed in the Declaration of Independence that all men are equal and that liberty is, together with life and the pursuit of happiness, each man's inalienable right, the black men of North America were slaves, many white men lived in peonage as indentured servants and women had no rights before the law that any male was bound to respect. In South America both black men and red were held as slaves and the white masses of the continent of Europe were serfs and bondsmen. For the most part the peasants and artisans of the European lands were without right over their own persons and properties.

Upon this scene the Declaration of Independence rang like a call to life. Indeed, its "self-evident truths" became the gospel of liberation to the plain people of the entire western world. Six years after its tidings had gone forth, Joseph II of Austria abolished serfdom in his dominions and from that year, 1782, until 1863, when the peasant bondsmen of imperial Russia were finally set free, one group of the white men of Europe after another secured the liberty of possession of their own persons.

The Russians were the last. Their emancipation came at the same time as the emancipation of the black men of North America, when Lincoln by proclamation put an end to their being chattels and made it possible for them to become citizens. The British had proscribed slavery in the British Empire 31 years earlier; but it was not until 1888, when slavery was finally abolished in Brazil, that property in human beings was outlawed from all the constitutional orders of the western world.

The final eradication of this most degraded of all the relationships between men, in all its protean forms, from the folkways and the mores of this world is a much slower, a much more arduous and far from finished process. Yet it is remarkable how easily, how naturally, the attitude of our generation toward slavery has become like our attitude toward cannibalism. We take for granted its horror and immorality.

So swiftly has the religion of freedom spread; so compelling has been its gospel as written down in our Declaration of Independence and in the French declaration of the rights of man, that we of the twentieth century treat them as if they were immemorial. We do not recall the imminence and recency of world-wide slavery; we forget how short is the time that freedom has been regarded as the inalienable right of every human being, how harsh and how often bloody is freedom's struggle to live and to grow and how precarious is its survival at any time. Modern freedom has had to live dangerously in order to live at all.

For the free man, government and all other modes of human association are instruments that serve, not masters who command. The order they embody is secondary, the law they rule by is derivative, their rights are not inherent but follow from consent. Their powers and claims are consequences of what they achieve, not manifestations of what they are. In a free society institutions are simply the ways in which free men, different from one another, arrange to live together with one another and are subject to continuous modification and change. If they receive definition in a written constitution, the core of that constitution is its provision for such modification and change. A society is free in the degree that free differentiation is guaranteed for its members and safeguarded for its institutions.

Regardless of its form of government, we call a society that maintains these guarantees and safeguards a democracy. Its intellectual life is characterized by free inquiry, free thought and untrammeled communication; its religious life by free conscience; its economic life by free enterprise. Its spiritual and cultural economy is, when compared with that of any totalitarian establishment resting on authority, an economy of abundance.

The democratic faith is that as a man's choices increase in variety and number, as he exercises and perfects his power to orchestrate them into a personal history ever richer, more flexible, more diversified, harmonious, smooth-moving and self-reliant the man grows in freedom.

The democratic faith, however, does not recognize as adequately as is needful that such a growth is far from inevitable. The faith is itself a choice effectuated by choosing. The faith is not an automatic process cumulatively consummated. It develops as a succession of conscious undertakings, achieved by the conscious will. It rests upon effort and inhibits the pulls of one alternative while it enhances and facilitates the pulls of the other.

It has ever been a part of the democratic faith that education is both a means and end in making the faith effective as a way of life. Democrats believe that democratic education brings to the growing mind its first awareness of alternatives in ends and means, in matter and method, in uses and consequences; that it seeks to develop intelligence in choosing, skill in using and wisdom in orchestrating alternatives.

To the democratic spirit, education brings into existence "the actual equality" which, in the words of the great Condorcet, "makes real the political equality decreed by law." Hence, democratic society is distinguished from other societies by the extent, the range, the variety of its public schools, publicly sup-

If the schools are to fulfill their true function, which is to educate free men for freedom, they must be the "homes of apprenticeship in liberty," rather than simply "factories of conformity"

ported. Democracies are known by the proportion of the tax bill devoted to the nation's schools for the nation's children. And in none has the public school budget been higher than in the United States.

With the immeasurable resources that the people of the United States have made available to their schools, the schools have fallen short of educating free men. They have been either servile or ambiguous, not liberal. If a liberal education be what John Milton called it, an education that "shall enable a man to perform justly, skillfully, thoughtfully and magnanimously all of the offices, both private and public, of peace and war," then our schools have not provided such an education for our children.

It would, however, be a grave injustice to throw the responsibility for this failure on the schools. They are only one agency, in fact, the least inward and moving of that total guiding and molding social process wherein the actualities of education consist. Schools are for the most part additive, cursory and tangent influences to the nation's economic establishment, to its political structure, to its cultural interests and to its fund of folkways and mores carried over from the ancestral past. These together make up the efficacious spiritual and material environment of a child's struggle to survive.

Schools are their instruments, developed and employed as specialized agencies which pass on to the generation growing up, first, that which the generation in power but growing old requires of its children and will exact if it can; second, the recollections of the generations grown old and dead in the form regarded as desirable by the living holders of power. For the most part the schools serve as implements of indoctrination and habituation, more designed to make sure that the past will be repeated unchanged than that a different future will be created.

Adapted, as Aristotle noticed more than 300 years before Christ, to the form of society as an actually going concern, the schools serve, on the whole, the interests of conservatism and occasionally of conservation, but not of libertarianism, variety and originality. Even in such a relatively free society as our own, with its profoundly democratic philosophy of government, the schools rarely venture to be themselves organizations of liberty intent upon discerning and imparting the mastery of the offices, private and public, both of peace and war. Yet it is in this mastery that the genius of each man's own independence resides; it is this mastery that remains his first and last defense against the cunning of tyranny.

The spirit of the communities that the schools serve, the pressure groups that dominate those communities, the inertia and timidity of the teaching profession work together to keep the nation's educational establishments factories of conformity, whereas they should be the homes of apprenticeship in liberty. Quite naturally operating on the principle of least effort, they prefer undoubting pupils who obey and give no trouble to doubting, inquiring minds that must be convinced instead of instructed. Their propensity is toward indoctrination instead of teaching, toward authoritarianism commanding from without instead of self-government managing from within. The result is that their form and organization make up an institutional hierarchy resembling those of present day industrial plants and suggestive of traditional ecclesiastical or military formations.

As in such plants, there obtains a great deal of both conscious and unconscious sabotage of production. Teaching is something we do to others and, officially, it should be a facilitation of learning, an activity which, like eating, no one can perform for another and everyone must perform for himself. Actually, however, teaching works in the main as among the chief obstructions to learning. A class war prevails between teacher and pupil whereby, in the long run, the pupil balks the efforts of the teacher. For in his body the school child is growing up; regardless of the classroom he is moving toward the independence of the biological adult. While this is happening, the classroom, far more than the home, is holding him to his nest habits and subjecting him to a social and intellectual prolongation of his infancy.

His discipline in liberty is a general confirmation in dogmas, not a personal apprenticeship in deeds. In order to be graduated, he must take his points in hygiene and have his hours of "physical training," but he is not inducted into such a musical and rhythmic wisdom of the body as the young Greek citizen naturally received and mastered. Athletics remains for him a spectacle produced by specialists, not a common adventure of amateurs. The boy scout movement scarcely mitigates this state of affairs.

Concurrently, in spite of the present day shifting of the false emphasis on glory to the equally false emphasis on gain, history continues and remains for the most part still a chronicle of wars threatened or waged among sovereign states, with all that their rivalries employed of force and fraud. The heroes of history continue still as somewhat ineffable leaders with mysterious powers instead of human beings who grew up and grew old and lived and learned; who by industry and intelligence, joined to no little luck, acquired the courage which is wisdom concerning dangers.

Since the rise of the curricular manifestations called "social studies," a disposition is apparent to make less of the hazards and glories of war and more of the profits and safeties of peace. But, here again, somewhat reformulated dogmas and reargued rationalizations continue to take easy precedence over the analysis and the reconstruction of the actualities of peace and war.

This article will be concluded in the December issue.

TUBERCULOSIS

The school doctor and the board of education must work together to eradicate this disease that kills three times as many boys and girls of school age as do all other communicable diseases combined

H. S. ROSENBERG, M.D.
SCHOOL PHYSICIAN, FRANKLIN SQUARE, LONG ISLAND, N. Y.

TUBERCULOSIS is killing three times as many boys and girls of high school and college age as are all other communicable diseases combined, and the highest tuberculosis death rate lies in the age group between 21 and 25—immediately following the school period. It is obviously the duty and the opportunity, then, of school and college physicians to deliver a body blow that will help win the fight against this killer.

Any plan to accomplish this must be practical. It would be ideal if we could give a tuberculin test to all children of preschool age and test them periodically throughout their school and college careers; also, we should make an x-ray examination of all reactors as soon as they are found. Were such a program possible, few cases would slip by, and if all contacts of cases discovered were similarly tested and the reactors given x-ray examinations, many other instances would be uncovered.

Unfortunately, this is what happens. We talk to the pupils. We explain in plain language what we propose to do and how and why. We also talk to as many parents as will come to public meetings and we send leaflets home to others. Then, when we think they should understand the situation, we ask their consent to test son William and daughter Mary.

And will they give it? The response is usually disappointing, in some schools from 50 to 60 per cent only. More than likely, it is that other 50 per cent that is more in need of examination.

There is always the question, too, of who will "foot the bill." When chest roentgenograms cost from $3 to $5 each, considerable saving can be effected by pretesting with tuberculin and by making an x-ray examination of the reactors only. However, with the advent of 75 cent x-ray photographs on paper film, which we have found entirely satisfactory and which can be made at the rate of many hundred a day, and with little interruption of the school routine, we find it more practical and economical to make x-ray photographs of them all and not ask for the consent of the parents.

The plan as worked out in Sewanhaka High School involves making x-ray examinations of all seniors each year; we do the same for members of athletic squads.

Many school physicians hesitate to include the cost of such a service in their budgets for health examinations. They look upon the small expense involved as difficult to justify. But is it? In the state of New York the average case of tuberculosis represents a public liability of $10,000, and 75 per cent of all cases hospitalized are admitted in an advanced stage. The cost to us of making roentgenograms of the chests of 1000 pupils by the rapid paper film method is $750. If out of that thousand, only one case is discovered that later would have found its way into a tax-supported sanatorium, the community will have saved more than enough to pay for 10,000 x-ray examinations. If the cases discovered are in the minimal stage, as they usually are, and are given prompt and proper care, not only thousands of dollars but also many lives will be saved.

It is not only the adult type of the disease that is important to find. Naturally, an "open" case in a school is a serious menace to others, but the discovery of cases of the first infection, or so-called "childhood," type, while not always implying immediate serious consequences to the child, may lead to the discovery of the source of the infection by an examination of all family contacts. In this way it is possible to track down disease sprayers who, unconsciously, may go merrily on, sneezing, coughing and spitting the air full of microbes. Too, the child known to have a lesion of the first infection type will bear watching to prevent a flare-up or a reinfection. "Forewarned is forearmed."

The discovery of cases of the adult type in children is not rare. Some six years ago, before our present method of x-ray examination was put into effect, the mother of a high school girl had a pulmonary hemorrhage. A routine checkup of the entire household disclosed that one of the children, a recent graduate of the school, had a moderately advanced case of the adult type of tuberculosis. If our program had been in operation then, this girl, while still in school, would probably have been found to have a childhood

Photograph by William Rittase

Periodical x-ray examinations of school pupils are real money savers, even aside from such considerations as the lives that are saved and the suffering that is prevented.

type of lesion, and an examination of her contacts in the home and elsewhere would have led to the discovery of the open case of the mother and saved the girl from contracting an adult type.

It is in such follow-up work among contacts and the periodic reexamination of those found to have the childhood type of lesions that the school program can be of greatest value to the community. Preferably, the family physician should do the follow-up work. He should also keep tabs on the suspicious cases discovered among his patients' families.

No health examination plan can be effective that stops at the mere discovery of disease; something must be done about it. The follow-up program, therefore, is just as important as the case-finding program. The details of that phase of the work will depend upon the facilities and personnel available in each locality.

On a purely financial basis, devoid of sentimental humanitarianism, with no allowance for lives saved or long suffering prevented or families kept intact, the x-ray examination of our young people periodically is a big money-saving proposition. Our own local high school, for example, had a budget of $484,059 for a certain school year. The cost of examining all the high school seniors, all members of athletic team training squads and the adult school personnel that year was $632—about ⅛ of 1 per cent of the school budget, or 1.3 mills out of each dollar. A school board that will not meet that expense and a school doctor who cannot convince the administration that it is good business to do so are not meeting the obligations that rest in them.

Of equal importance is the x-raying of all employes of the school system. Teachers, janitors, bus drivers, cafeteria workers and others who come in direct contact with pupils are included in our periodical x-ray examination. The school physician and the board of education have a definite responsibility to their community to see to it that children are not exposed to communicable disease from employes of the school system. An x-ray film of the chest showing freedom from active or threatened tuberculosis should be a requirement for employment.

After employment, too, each worker should be given an x-ray examination periodically, the period depending upon findings of previous examination. In our school districts of Franklin Square and Elmont and at Sewanhaka High School, examination of all employes before employment and periodically during service is compulsory.

The importance of including every individual in the x-ray examination is strikingly illustrated by an incident in a small western high school. Out of 60 pupils given the tuberculin test, five, or 8 1/3 per cent, reacted positively. X-ray examination of the chest was made of four of these but the fifth, a freshman, declined. Two years later the same school was again examined and 51 out of 62 pupils reacted to the tuberculin test. The boy who had refused the x-ray examination two years before was then at home, ill in bed. He had been having pulmonary hemorrhages and had far advanced bilateral tuberculosis with cavities in both lungs. Up to two weeks before his removal to a sanatorium this boy had been attending school regularly, participating in athletics and social activities. Result: 82 per cent of his schoolmates reacted to the tuberculin test instead of 8 1/3 per cent.

The question is sometimes raised as to whether such a program does not unduly compete with the practice of private physicians and local radiologists. The answer is decidedly "No!" Every radiograph, at the time of making, bears on its face the name of the family physician. The films are all read and diagnosed by an eminently competent chest roentgenologist. The report of his findings, if negative (favorable), is communicated directly to the parents of the pupil with congratulations that their child's lungs appear sound at the present time. Any positive (unfavorable) findings are communicated directly to the family physician and the family is advised to consult the physician who has the findings. Thus, the intimate relation-

ship between family and family physician is encouraged.

The school physician never treats or prescribes. He may advise rest or better hours or more nourishing food or he may exclude a pupil from competitive games or from the training squad, but it is the province of the family physician to follow up, treat and watch over all cases found.

This leads to another oft-asked triple question: "What do you find? What do you do about it? What do you accomplish?"

What we find is well exemplified by the results of last year's examination. Of 739 pupils examined, 518 were boys and 221 were girls. The incidence of definite or suspected pulmonary disease among the boys was 35, or 6.8 per cent; among the girls it was 15, also 6.8 per cent. Among the school employes we found both the primary and adult types of lesions.

What we do about it is this. We search out both early and advanced cases among seniors, athletic squads of all grades and all employes. We follow the leads furnished by the childhood type of cases back into the home in quest of open or early cases among the family contacts. We give invaluable warning to those having such lesions and we see that the active cases, whether minimal, moderately advanced or far advanced, are given proper attention.

What we accomplish is threefold. We are making our community health conscious and radiograph conscious. We are teaching school pupils and, through them, their parents that tuberculosis must be sought after if it is to be found early; that, like a fire, it is not very dangerous if it is discovered in time; that the x-ray film is the one efficient detective that can discover the disease in time, and that, once discovered, it is up to the patient to follow the advice of the family doctor and be careful. How many lives will be saved or prolonged, or how much misery and illness will be avoided by following this program, who shall say? But if such a plan is systematically, rigidly and generally followed, tuberculosis will be curbed among our school population in both the student body and the staff, as it should be. That is a part, and an important part, of the business of every school physician.

TEAM SPORTS *v.* PHYSICAL EDUCATION

H. R. WEATHERBE
TEACHER, PETALUMA HIGH SCHOOL, PETALUMA, CALIF.

SINCE the first laurel wreath was placed upon the brow of the earliest Olympic victor — yes, even long before that—the public has loved heroes.

The vast numbers of people who attend football, baseball, track, basketball and other athletic events are evidence of that fact. This athletic fervor on the part of the general public has forced the universities and colleges to hire expensive coaching staffs. The public and alumni together bring pressure to bear upon the coach to produce a winning team. If he does not, he is likely to be ousted. The ordinary unheroic student has his physical education needs taken care of by the physical education teaching staff.

This enthusiasm has been carried over by the public into the high school. Interest in high school athletics is fine, but the pressure put upon the college coach should not be transferred to the high school coach.

An unthinking public has done this very thing for years. Especially is this true in many small and moderately sized towns and cities. The pressure put upon the high school coach to win or lose his position has been a grave public mistake. It has forced the high school physical educator, whose purpose should be to educate everyone alike, to neglect the many in favor of the few.

Time and time again, in order to save their jobs, coaches have had to spend all their energy training and coaching team members. Someone will undoubtedly raise the question, what does the physical educator do during the regular school day period? The answer is simple. In nearly all high schools, in addition to their regular duties, physical educators have to be groundkeepers, that is, keep the baseball field in condition, the football field marked, the track lined and free from holes. This is done during the regular gymnasium period. The coach takes the roll, throws the class a ball and then is on his way to police and care for school athletic fields. He knows that this is a grievous mistake, that it deprives the ordinary physical education pupil of any regular, progressive physical education curriculum, but he has to do it. Why? Because the service is not provided for in the school budget controlled by the taxpayers.

In the present national emergency, many men are entering the armed services. Their physical condition is of national importance. We all know of the average physical condition of the men who have been drafted to date. It may come to pass that the public will set up the clamor, "What have the pupils been doing in physical education?" The people should be made to realize who is to blame. It is they who have forced the coach to allot most of his time to developing team sports.

If the question arises, I hope that the educational profession has an answer ready to defend the physical educator and tell the taxpayers in no uncertain terms that they are essentially to blame for the emphasis on team coaching. High school sports should be participated in for enjoyment and not for winning. The latter is secondary. If this idea is instilled in the public mind, the physical educators will realize that they are free to train all the pupils which is, after all, their primary purpose.

Parents and Teachers Outline Their Aims—

Work Together for the Children

G. D. ROBBINS

PRINCIPAL, JUNIOR HIGH SCHOOL
STILLWATER, MINN.

"WHAT do parents expect of the school today?" and "What do teachers expect of parents today?" These two subjects were made topics of discussion at a meeting of parents and secondary school teachers in a typical midwestern community.

The home and the school were both represented on a panel round table and the participants were requested to present frank and outspoken answers to the questions indicated. From this meeting there developed clear-cut and mutually acceptable points of view which are probably the foundation of basic understanding and of all programs of cooperation between the home and the school.

Neither teachers nor parents presented for the consideration of the other suggestions or points of view that were unreasonable or unattainable. Neither presented a point of view concerning which the other could take exception on the grounds of unfairness or prejudice. The local acceptability of the arguments presented leads me to feel that they are sound and worthy of consideration in other communities.

Common ground for the discussion was established immediately when both sides agreed that the home and the school have one great mutual responsibility, namely, "to proceed with their task of assisting in the growth and development of the knowledge and personality of the individual child in the face of modern day problems and changes." From this basis both sides then proceeded with a presentation of suggestions as to what could logically be expected of the other if it were to hold up its share of the responsibility. The suggestions offered were not necessarily in the nature of criticisms of existing conditions but were rather in the nature of proposals which, if effected, would facilitate the cooperative endeavors of the home and the school.

"What do teachers expect of parents today?" This question was answered by the summarized results of a questionnaire that was sent to the secondary school teachers of the city asking for their first reactions to the question. The responses, in order of frequency of mention, were as follows:

1. Visit the schools and teachers and get acquainted.
2. Do not permit your children to be absent except for illness.
3. See that children keep reasonable hours on school nights.
4. See that children get enough sleep.
5. See that children get to school on time.
6. Refrain from discussing teachers before children or at social gatherings of adults.
7. See that children have as satisfactory a study environment as possible and adequate time to study.
8. Study and learn to know your own children—both their strengths and their weaknesses.
9. Check the accuracy of reports your children bring home from school about the school and teachers.
10. Do not place too much emphasis on the grades your children get in school.

One speaker on the panel presented two additional suggestions for the consideration of parents which were more general in nature but which seemed fundamental in solving the problem:

1. Parents today should seek to know more about, and to understand, the goals, aims and objectives of modern secondary education.
2. Parents must realize that they, not the teachers, are still the most powerful educative agency in the lives of their children, owing to the fact that the great majority of young people reach an advanced stage of development before they are willing to accept the principle that their parents are anything less than perfect examples after which they may safely pattern their conduct.

"What does the parent expect of the school today?" In answering this question, the parents likened the child to a home that was to be built. The parent was the person who was supplying the finances necessary to build the home; the child was the home to be built; the teachers and the school were the contractor who was to be given the job of constructing the home. What qualifications must this contractor possess to be trusted with the responsibility of building this home which is so extremely important and valuable to the builder?

1. The contractor must be adequately prepared and fully qualified in the special abilities, knowledge and technics of his trade. His foundation training must have been adequate. His experience must have been successful. He must have kept himself posted in regard to the most recent developments in the teaching profession. He should be working in the field for which he has had the major portion of his training and experience.
2. The contractor would be expected to employ business-like methods in his task. He should be consistently prompt and present. He should have the best tools of his trade and these tools should always be in good working order and in use. He should refuse to stoop to the use of artificial methods or substitute materials (favoritism, sarcasm or ridicule).
3. The contractor must regard the structure as an individual one and not as a stock pattern. He must respect the individuality of its design and purpose. He must refrain from attempting to solve its problem by applying exactly the same pattern that has been used for all other construction jobs. He must encourage the builder's desire for individuality rather than discourage it as too difficult under modern conditions.

UNIFORMITY Is Needed

In State Educational Laws

A. B. CALDWELL
STATE DEPUTY COMMISSIONER OF EDUCATION
ST. PAUL, MINN.

LITTLE progress has been made toward uniform state educational laws since Cubberley wrote the constitution and laws for the "State of Osceola." It is true that laws have been borrowed from other states, and it might even be said that there was a western migration of educational laws. This process of copying extended through the early years of each state and resulted in striking similarity in the laws of various states governing the types of schools then maintained, but in more recent fields of legislation, such as adult education and transportation, wide divergency exists.

The need for greater uniformity of state laws relative to certification of teachers has long been recognized and some progress toward greater uniformity has been made in the past few years, particularly in the southern states. The need grows out of migration across state lines of college students and public school teachers. Another and more urgent reason for uniformity, however, has received little attention and is concerned with the newer fields of legislation where the greatest diversity exists. If federal aid is provided for any educational function for which the laws of the states are widely divergent, the imposition of detailed federal rules and regulations is almost inevitable. If, on the other hand, the laws relative to such function are comparatively uniform, the federal aid law and the rules for its administration will have to adjust themselves to the existing state patterns.

The need for uniform state laws governing legal procedure has long been recognized. Fifty years ago the National Conference of Commissioners on Uniform State Laws was organized under the auspices of the American Bar Association. During the period 1892 to 1900 the conference formulated eight laws and recommended their adoption by all the states. Up to the present time the conference has proposed 90 acts, some of which have been withdrawn owing to changing conditions and needs. At present, the conference is advocating 53 uniform acts and, in addition, has drafted six model acts. Of these 59 laws, Oklahoma has adopted only three while South Dakota and Utah have enacted 35 each. The numbers adopted by other states vary between these extremes.

The conference states that it is concerned with "matter of law and not with administrative procedure." The six uniform laws most generally enacted by the states are concerned with negotiable instruments, warehouse receipts, sales, narcotic drugs, attendance of out of state witnesses and veterans' guardianship. The conference has, however, sponsored acts outside the field of legal procedure, such as laws regulating the display of the flag, machine guns, narcotics and pistols. One of its model acts is concerned with agricultural cooperative associations.

Early in the history of the National Conference of Commissioners on Uniform State Laws the objection was raised that "even a self-imposed uniformity tends to centralization and is opposed to the excellent principle of local self-government." The conference as a group, however, did not agree and stated its views: "On the contrary, the proposed method of voluntary state action takes from the general government any excuse for absorbing powers now confined to the states and, therefore, directly tends to preserve intact the independence of the states."

Since 1892 other organizations have advocated uniform laws relating to their special interests. Among these are the Interstate Commission on Crime, American Bankers' Association, National Civic Federation, National Tax Association, National Association of Credit Men, National Fire Protection Association, American Public Welfare Association, National Civil Service Reform League, National Municipal League and the Council of State Governments.

Groups outside of the profession frequently seek to impose uniform laws relative to education. The recent nation-wide movement to require all school buses to be painted red, white and blue is a case in point. Legislation relative to the ventilation of school buildings is another example. Recent demands for legislation requiring the teaching of certain subjects in the public schools indicates at least concerted action, if not an effort to establish identical laws in each state.

There are certain areas of school law for which relative uniformity is both possible and desirable, but nowhere is there a national organization of disinterested experts to which a state may go for advice concerning proposed state laws. If any effort is to be made to obtain such uniformity, some type of voluntary organization is needed. This cooperative group should be composed of persons who are experienced in the administration of school law and, preferably, should also contain some persons who have had legal training.

The drafting of school laws, whether uniform in several states or designed merely for a single state, should not be left entirely to persons whose training has been entirely in the field of law as contrasted to school administration. In the beginning, the Council of State Governors found that the preparation of legislative bills required the assistance of persons outside the legal profession

who were familiar with problems of administering such laws.

If a voluntary group should be organized to work on the problem of uniform legislation, it would, of course, have to select certain areas of school law for which uniformity is desirable and feasible. One such area might well be the preparation of a uniform or model law governing the licensing and control of trade schools, correspondence schools and other educational activities conducted for a profit. During the past two sessions of the legislature I assisted in the preparation of bills that would have provided such regulation in a single state.

It was discovered that relatively few states have such laws at present and the laws that do exist are widely divergent, despite the fact that the need for such a law exists in all states and the problems are largely identical. If a national group were interested in drafting a law governing such educational activities, it would first need to determine the objectives of such a law and the procedure for carrying it out. Some of these problems are as follows:

1. Shall licenses be issued to schools, to salesmen or both?
2. What information shall be required?
3. What control shall be exercised over solicitation and advertising?
4. Shall the contract forms be subject to approval?
5. Shall teacher qualifications be imposed?
6. Shall such schools be subject to regular inspection?
7. How large a fee, if any, shall be charged?

These questions by no means exhaust the problems that arise in drafting such a bill. Even the actual words and phrases to be used need careful consideration since the interpretation of the act may depend in many cases on the meaning of a single word.

In addition to the fields already mentioned, greater uniformity might be possible and desirable in the fields of post high school and adult education, recreation, transportation and many other areas that might be determined by the group itself.

Such a legislative advisory group should not seek to impose any decisions as to policies but should be able to indicate the major issues and to propose solutions to these problems. Participation should be voluntary. There should be no suspicion that the movement is controlled by any pressure group. Above all, it should follow the precedent of the National Conference of Commissioners on Uniform State Laws which undertook the preparation of only eight laws in the first eight years of its existence.

The work of the Educational Policies Commission might well serve as the foundation on which to build a program of uniform school legislation.

War and Adult Education

F. A. CAVENAGH
DEPARTMENT OF EDUCATION, KINGS COLLEGE UNIVERSITY, LONDON

EARLY fears that the war would kill adult education in Great Britain have proved false. What it has lost in one direction, it has gained in others.

For the three winters of 1938-39, 1939-40, 1940-41, there have been 810,698 university tutorial classes (lasting three years), with approximately 13,000, 10,000 and 7000 students, respectively. But for the professional courses (lasting one winter or part of one winter) the corresponding figures are 210, 316 and 431, with roughly 4000, 5000 and 7000 students.

More insistently than ever before, people wanted to understand the causes of the present mess and the means of ensuring a safer world for themselves and their children. They were interested chiefly in social sciences. These subjects—history, economics, political science, psychology and, above all, international relations—accounted for 57 per cent of the 1940-41 program. Literature and the arts accounted for 28 per cent.

Emphasis on the first category is just what would be expected. But it is remarkable how people have found not merely solace and recreation but also stimulation to further effort in opportunities for appreciating and creating works of art. This is perhaps the most significant discovery of the war period.

Since the large proportion of men and women is now in the fighting services, educational needs must be catered for them. Much of the work of adult education bodies has, therefore, switched to the forces. There are 23 regional committees covering Britain and Northern Ireland, with a central advisory council for adult education in His Majesty's Forces, each centered on and working closely with a university. Thousands of single lectures, short courses of about 10 lectures and classes are provided.

In addition to this civilian provision for education, the War Office last September set up the Army Bureau of Current Affairs (ABCA) under the direction of W. E. Williams, secretary of the British Institute of Adult Education. The Army Council issued instructions that it should be the duty of every regimental officer to conduct, during working hours, discussions on current affairs for the men.

A correspondence scheme is now working for the army. And then there are the army study centers—not merely the quiet rooms badly needed by a soldier but places for such activities as musical recitals on the phonograph, practice in the arts and crafts and use of the reference library. All this is under the supervision of a trained person.

These developments are evidence of a flood of more varied and popular education in the country. Back in 1919, the reconstruction committee declared that adult education should be life-long and universal. This can never be unless it comes down to the market place and appeals to the interests and needs of those whose schooling did not prepare them for more intellectual pursuits. The people's culture is something living and real, not just a museum collection of the best thought and sayings in the world.

No. 1: This man is now contacting schools with a fine semieducational project.

Dear Jerry:

While I am quite certain I can answer your letter, I am dubious as to the clarity of the answers. Mrs. B — and I grew up on the farm, having air, food, shelter and health in plenty - and new shoes in November. We married on $405 a year and, babes in the woods, never saw the wolves. At heart she and I were a $75 a month couple, and whatever we received more than that was fabulous wealth!

Such is the tenacity of youthful ideas that while many a day today brings as much as one month brought in those days, I look forward with complacency to that day when I can again be a $75 a month man. True it was that when we made your acquaintance, nearing the end of twenty-two years of teaching, we had to go into the old bag of tricks pretty often.

Do you recall that I did not get auto tags until they were cheaper? That my clothes lacked style, although in quality they were superior, owing to the fact that they were secondhand? Save, re-use, forego! Take this instead of that. Do without and do something else. We did. We did not mourn. And then a teacher gets notions that his kids must go to college. We sent them, though they borrowed on their good names and sometimes received help from us, all of which has been repaid. Many is the month celebrated that has seen no doctor at the door, yet 11 cents has bought the average meal in that month. So I quit teaching because it had too little to offer my family.

No. 3: This man, now in the field of physical therapy, taught physical education for several years.

Dear Jerry:

Glad to hear from you and ashamed that I didn't write sooner in answer to your letter. We all get into ruts, and even the man running his own business needs a jolt now and then to keep him up to par and in step with the times.

When I took the teaching job in F------ton, long before that town became notorious, Marie had just given me the well-known "gate" and I didn't give a damn about anything. I didn't try hard for the job, but got it and then broke a contract to quit it. I had had more experience than most teachers in that I'd worked at three jobs before, and the comparison with teaching was such that I became disheartened and disliked teaching more and more.

I will say that teaching is important, and if a teacher doesn't do a good job there's more harm done than appears at the time of instruction. (By the way, Mike B-- quit teaching to study dentistry, after seven years). My work still involves teaching (individual instruction) as in corrective gymnastics and hygiene.

They are not

JAIRUS J. DEISENROTH

PRINCIPAL, JUNIOR HIGH SCHOOL
PIQUA, OHIO

MANY a school man has felt as I did last September when I discovered for the fifteenth time that my salary was barely enough to take me through the year, barring unusual expenses. Many feel, upon casting over their prospects for the school year, that it is not worth it; they look toward some other type of occupation, something that might bring in more of this world's goods. I did some thinking along that line, with the usual result. I have hung on to my present position, glad to have it and sorry that nothing more interesting has been available.

But something more was done in my case. I recalled the situation of one Mr. B—, formerly a co-worker in the same system, who seemed to live on less and with a family twice as large. The decision to write him was made. The letter asked Mr. B— certain questions, such as how that large family made things go in the former days, what influenced the change in occupation, how much better this man was living and why.

The letter was answered quickly and seemingly without much reservation. Information so personal and so valuable was of great interest and

teaching now

These letters tell the story: Men teachers reveal their reasons for abandoning careers in teaching in favor of other more lucrative occupations

stimulated a decision to write several other men, who, trained in educational lines and well hired, so to speak, had changed over to new jobs. All of these men were kind enough to write personal letters, revealing facts that might be of value to boards of education or parent organizations as they ponder the turnover among men teachers.

These are all answers to almost identical letters asking why they changed their work, what they like about the new work and for any other information they thought of value. Names are deleted or changed, as are places and dates, as these men were promised anonymity.

Nowhere in this country is there a greater need for strong and talented men than in the schools, but few institutions have less holding power than these same schools. What should a man do when faced with an attractive alternative that may take him from his chosen field? The implications are clear if one but reads between the lines. A solution of this problem will go far toward bringing our schools to a new peak of efficiency and a new high in satisfactory personnel relations.

No. 2: This man received teacher training, but did not teach for about ten years after graduation.

Dear Jerry:

You mention men switching from teaching to other fields where they make two or three times as much salary and find contentment as well. I have met a few of these. They change for various reasons. One told me he changed because after marriage he could not give his family all he wished on an "educator's" salary. Now he is the chief research chemist for an aniline and chemical company in Philadelphia at $10,000 a year.

During the last summer in which I worked for the Pullman Company I had several talks with the lady who inaugurated the popular Union Pacific 30 cent meals that took the traveling public by storm. She used to be a home economics teacher, figured she was going no further in that field and branched out into the field in which she is now a leader. Of course, she is making many times what any home economics teacher is making, plus the satisfaction she has of doing something unusual and beneficial.

As for me, if I had to do it over again, I would go straight into forestry, the biological survey or into some other he-man field. These men don't even look like teachers! I hope some day to teach with men who don't act like teachers. In the meantime I can get along teaching, although I made much more money with the Pullman Company.

No. 4: Educational director for a large automobile club, this man still contacts the schools.

Dear Jerry:

To answer your queries, many men train for teaching to improve their education and to enable them to take advanced studies in another field. Many train for teaching, then use the proceeds to help them receive training in other work. I, for one, had not definitely decided what I would do after leaving high school. I worked as a steamfitter's helper for a whole year before taking teacher training. Then I taught in the schools for a miserable salary of $1100 and $1200 per annum. This did not encourage me to continue with teaching as a career.

In addition, there is in our school systems a great amount of politics and religious bigotry. If you belong to a certain religious denomination your chances in teaching are exceedingly limited, though this, of course, is denied. I have served as president of a school board and know the condition as it exists. Therefore, the salary, the political kowtowing and religious blackballing effectively convinced me that I should divorce myself from this line of endeavor.

Schools at WAR

HOMER W. ANDERSON

DIRECTOR OF EDUCATION SECTION
WAR SAVINGS STAFF, U. S. TREASURY DEPARTMENT

FOR victory we need a school program that is geared to help both in financing the war and in training youths for their share in war and postwar responsibilities. For such activities they must have the physical stamina, the courage, the intelligence and the skill needed in the armed forces, in industry, in agriculture or in the home.

The war must be financed. This cannot be done by taxation alone; it cannot be done by borrowing alone. It must be done by a combination of methods: taxation, borrowing and war savings. The last is a form of borrowing but its implications are much greater than loans from those who ordinarily have money easily available for this purpose. There are three distinct advantages to war savings:

1. Everyone, rich and poor, can participate and feel the uplifting of the spirit that comes with knowing that he is helping to win the war.
2. Buying savings stamps and bonds builds up a reserve for the future, thereby giving assurance of greater security and happiness when the war is over.
3. War savings, participated in generously by a vast majority of the population, helps to prevent inflation, which would be disastrous to the whole economic structure, including the financing of schools.

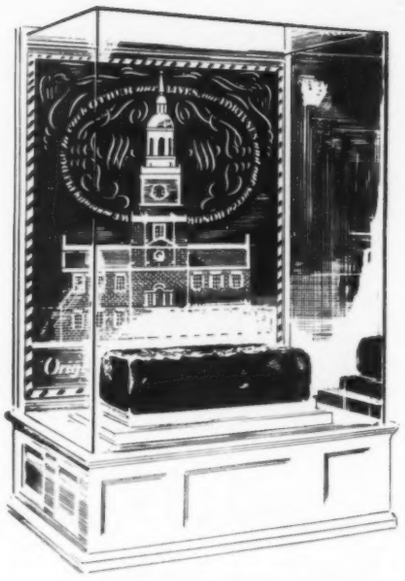
Schools can help to win the war by offering every pupil the opportunity for the systematic purchase of war savings stamps and bonds. They also develop an understanding of the meaning of war savings and its relation to the total war effort—both military and civilian, war and postwar.

To become effective both of these will require careful planning for possible revision and coordination of curricular and extracurricular activities in the schools. In short, it is necessary only to quote the Educational Policies Commission in saying that we are "not discussing 'education as usual,' but education which is better than usual, education geared to deliver its full potential values to the war effort."

It should be understood and accepted that schools cannot roll along as before. Even the war activities of last spring, splendid as they were, need to be improved upon. At the end of last term we were only "ankle deep" in the war. By midwinter we shall be hip deep. Americans in ever larger numbers will brave enemy fire on the far-flung battle lines of the world. Factory workers will toil longer and faster on the production and assembly lines. America's teachers and pupils have already demonstrated their willingness and high efficiency. This year they will be called upon for the utmost of their energy, time and resourcefulness.

The war activities of the school are not separate, isolated campaigns superimposed on education. They are parts of one great campaign allied with education and coordinated with industry, agriculture and the fighting forces—a campaign for the preservation of the democratic way of life. To see the whole picture clearly will make every pupil and teacher a more effective war worker and add to the educational value of his war work besides. The best way to see this picture is to re-create it in the child's own school world.

The U. S. Treasury, in cooperation with the Office of Education, is therefore offering the "Schools at War" program. Each participating school will make a record of its war activities in written reports, charts and pictures. These records, together with exhibits composed of the best examples of war work, will be presented next winter as education's own "Report to the Nation." Each participating school will receive a certificate of distinguished service from the Treasury Department. The schools of each state will be presented with an heirloom of democracy, one of the original bricks rescued during recent repairs to Independence Hall and presented to the Treasury by the citizens of Philadelphia.



The Liberty Brick award will be presented to schools in each state with a certificate of distinguished service.

The "Schools at War" program is based on the belief that participation in war activities in the schools can and should be educational in its effect on youngsters. The activities include: (1) saving money for the purchase of war stamps and bonds; (2) serving through the junior Red Cross, scouting and Civilian Defense, and (3) conserving human resources and valuable materials. Out of such a program should come lessons of patriotism, sacrifice and citizenship. From it should arise an increased sense of responsibility and greater willingness to assume leadership as the immediate job to be done.

The resourceful principal and teacher can weave into the regular class work much of the program suggested in the handbook of the "Schools at War." English, arithmetic, social studies, music, art, physical education can all contribute to the ultimate objectives of the program. For 32,000,000 young Americans this integration will provide an increased understanding of the responsibilities and privileges of citizenship in a democracy.

We Must Teach Pupils to THINK

Tomorrow's voters must be taught today to think and reason clearly so that they will be able to tackle their problems with understanding. Herein lies the greatest opportunity of the public schools. Can they meet the challenge?

HARL R. DOUGLASS

DIRECTOR OF THE COLLEGE OF EDUCATION, UNIVERSITY OF COLORADO

BERNARD SHAW once said that the schools are always driving the tack where the carpet was last year. The social lag is conspicuous in the schools—noticeable in the elementary school, discouraging in the secondary school and almost unbelievable in college. I shall concern myself today with the elementary and the secondary school, particularly the latter.

The policy of supporting public schools by general taxation according to ability to pay is logical only for an educational system that has as its principal objective some important contribution to society, to the welfare of all of us, and not merely to serve those who have children in the public schools. The history of education clearly indicates that such was the principal argument for free public schools.

The schools have never operated entirely on that principle. They have been diverted by a number of influences. Colleges and universities have attempted with considerable success to control the lower schools and to shape them around the single objective of preparation of the few for higher education. Employers have held, in general, the idea that schools should provide business and industry with an abundant supply of young labor well trained for store, shop and factory. Both of these influences have had the support of parents. Society has had no attorneys in court, no pressure groups, save the occasional educational philosopher or social analyst who saw in public education the necessary foundation of a functioning democracy and the principal means of social progress. The fundamental principle in the redirection of education is the tendency and the necessity of redirecting education toward this principal objective.

In a democracy, the people are in a sense sovereign; in a republican democracy, such as ours, it is necessary that they be able to distinguish between sound and unsound leadership and representation. To remain in office, the representatives of the people must convince the voters of their fitness for the job. In office, to a great extent, they are susceptible to the opinions of their constituents. The federal government has become not only responsible to the masses of voters but sensitive to their opinions.

The present policy of the national administration to go no faster than majority public opinion would approve is a good example of this situation. As good examples of the dangers of any other policy, we may take the painful lessons taught by the supreme court packing fiasco and the tragedy of Woodrow Wilson's peace plans at the hands of an American people who were not adequately prepared to consider them intelligently.

In general, the solutions to the problems of state and nation that are adopted depend largely upon the ability of the people to understand proposed solutions and to evaluate them. Therein lie the great opportunity and the great responsibility of public education. Herbert Hoover, in his inaugural address, said so truthfully: "Democracy can succeed only through an instructed electorate. Our objective is not merely to overcome illiteracy. We have marched far beyond that. The more complicated become the problems of our nation, the greater the need for more and more advanced instruction."

In this day of highly complicated industrial organization, of highly organized interdependence within the nation and among nations, our problems have become most complicated and most difficult to understand—much less to solve. I doubt sometimes whether our founding fathers would ever have trusted the welfare of the nation to a democratic form of government had they been able to foretell how complicated our economic and political life would become and what demands upon the intelligence of the common man the democratic government they created would entail.

We have on every hand evidences of the need for redirection of the program of the public schools. In the depression, it was clear that the people had not been adequately educated to meet the problems involved. All sorts of unsound schemes were able to attract thousands, even millions of followers—the fallacious "pig-killing" economics of scarcity, the Townsend Plan, the Coughlin demagoguery, the theory that the depression would just solve itself and theories based upon the idea that the standard of living could be improved by decreasing production.

Our inability to hook up the nation's great resources of men, money

and materials to solve the problem of unemployment except in time of war is a cracking challenge to the redirection of the program of the schools. The conservation of our priceless possession, the soil, the product of a million years, is another; the provision of medical and dental service to the masses is another, as is the defense of democratic government against gang control in city and state governments. The emancipation of millions of tenant farmers and share croppers and their full acceptance into our economic society is still another. The problem of contributing our maximum to peace and to world-wide economic prosperity is worthy of our best.

Reorganized Program Needed

The program of the schools needs to be radically reorganized to meet the needs of a changed and rapidly changing national and world-wide situation. Vocational education and preparation for college must give ground. At least one third, and probably more, of the school program should be dedicated to the task of ensuring the effective functioning of democracy. Every boy and every girl between the ages of 12 and 18 should spend at least two hours every school day in the preparation for intelligent thinking about social, economic and political problems; even before 12, much can be done.

In college, there is little hope for much progress in the next few decades. The college has never emerged from the status of a startlingly inconsistent hybrid of stilted academic culture on one side and vocational education at the level of the professions on the other. The great mass of college graduates is unbelievably ignorant about matters of crucial public concern and the majority is not enough interested to correct this ignorance.

The need for redirection along the lines of intelligent economic citizenship will be unusually keen in the next decade or so. It becomes increasingly apparent that the solution of employer-labor problems cannot be left to the struggle for power between the two interested groups. The only thing solved will be the question of which is more powerful and the people will eventually foot the bills for the struggle as every day's labor lost means that much lowering of the general standard of living.

We face today the formidable problem of financing our military effort. Shall we accumulate a staggering national debt—twice or three times that which the anti-New Dealers told us five years ago was already dangerously large? Shall we pay as we go or shall it be by bonds that will be a millstone around the necks of the next two or three generations? Shall we raise needed billions for war by enforced savings or by taxes on wages and earnings? Our present generation of voters is like little children in the presence of these problems. They are swamped, confused, overwhelmed.

At the conclusion of the present war, we will be faced with the necessity of absorbing millions of men now engaged in military or allied work. How shall it be done? Will we be able to finance another New Deal on top of a national debt of a hundred billion dollars? What would be the effect of a plan of enforced savings which would release at that time billions of dollars of purchasing power?

Schools Cannot Teach "Answers"

It is true that we could not have taught the answers to these questions to the youth of a generation ago. We cannot teach the answers to youth today. That isn't the point. Education does not consist merely of learning answers. The answers are likely to be soon forgotten or they may be answers to the wrong problems, or they may become wrong answers. The important thing is that by continued study in these fields, the voters of tomorrow develop the abilities to think clearly about such matters, a background of previous history in those fields, insights and understandings that make them effective in tackling new problems just as training in law enables attorneys to tackle all kinds of cases, just as training and experience in business enable business men to think more clearly about new business problems as they arise. They are at home in familiar surroundings. They know the landmarks and the fundamental principles.

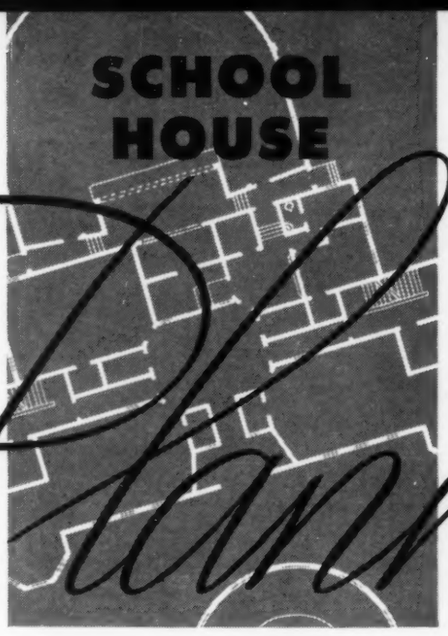
The schools should give much more attention to the study of other peoples and other nations. We must understand them as friends or as enemies, as competitors and as cooperators. We must be able to think intelligently about foreign trade. It must no longer be necessary for political leaders to advocate "sell 'em everything—buy nothing," to insist upon a favorable annual trade balance. We must bring up a generation that can live at peace and in prosperity with the other nations. Isolationism and ignorant provincialism can bring us eventually only grief and economic, if not political, disaster.

Must Learn How to Win Good Will

We must know the nature of foreign peoples, the economic physiognomy of their problems, their attitudes and ways of doing business. We must know how to win the good will of all Latin America and undo the wrongs of ignorance and greed that have characterized our previous relations with it. We must begin in the first grade to develop respect for and belief in the economic and political dignity of all people, whatever their language or complexion. Our educational policies, however suitable for the isolated position we occupied in the nineteenth century, are no longer sound or consistent with the condition of twentieth century life.

Almost every great leader, from Benjamin Franklin to the present, has pointed out in some public document or address that, as George Washington put it, "In proportion as the structure of a government gives force to public opinion, it is essential that public opinion be enlightened." Thomas Jefferson, Abraham Lincoln, Grover Cleveland, every great president except our present great leader has unequivocally favored the extension of public education in the direction of more intelligent citizenship.

While the redirection of the program of education will take, and is taking, many new directions, none is more important or more badly needed than the great emphasis upon the training of young people for the intelligent consideration of the problems that confront American democracy, for in America today, as Daniel Webster put it, "In the diffusion of education among the people rests the means of perpetuation of our free institutions."



Planning

THE PLASTICS ARE COMING

JANE O'CONNOR
ASSOCIATE EDITOR, PLASTIC NEWS LETTER

THE story of plastics is a story of scientific magic. The process of creation varies and is an infinitely complex chemical process with each different material. Briefly, this is what happens.

Certain chemicals are compounded and cooked into a syrup called a resin. This resin is mixed with a filler (wood pulp, asbestos, cotton linters to give a solid quantity base) and with plasticizers (to control the consistency of the final product) and with various similar agents calculated to produce certain desired effects in the end product, and is placed in a steel die. Pressure forces the mass at an extremely high temperature down into the die, tooled to the exact shape of the product, for example, a telephone receiver. During this process, which can take any time from 2 to 15 minutes, the chemicals undergo a change. They fuse, taking on totally new and independent characteristics. The die is opened and the solid, perfectly formed ordinary telephone receiver has been made.

Thus, plastics are "made" not "found" as is iron in a stratum of rock. Characteristics of flexibility, transparency, color, elasticity, water absorption, dielectric qualities and many more are made "to order" by a simple adjustment of the type and amount of chemical used in the raw molding compound.

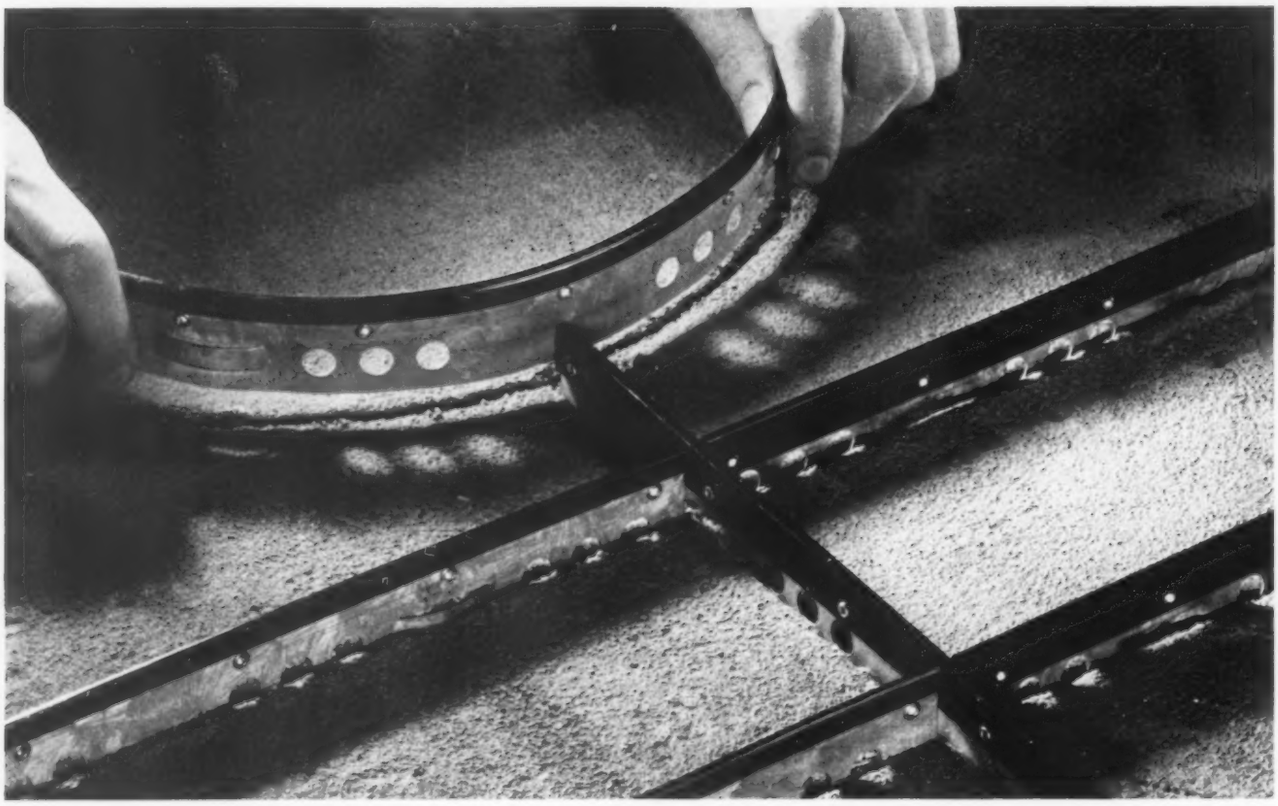
The fact that with plastics the end use decides the original chemical recipe represents a great challenge to designers, architects and, in this case, school planners. The reversal of the usual rule—"fit the design to the material"—demands that designers guard against grounding their imagination on the time-tried traditional materials, which could and often does lead to construction of a series of duplications through the years. Plastics demand designs of imagination and utility that will force plastics producers to create new materials.

A consideration of practical applications of plastics gives factual conviction to the most unrestrained flights of fancy. Rule No. 1 for builders is this: All plastics, whether clear or opaque, hard or soft, liquid or solid, are divided into two classifications: thermoplastic (remoldable) plastics and thermosetting plastics.

Thermoplastics will, under certain heat application, soften and tend to lose their molded or tooled shape. Thermosetting plastics, because of chemical composition, are infusable. They can withstand heat application, remain solid and retain shape. Naturally, in application to architecture the thermosetting plastics have the better properties, particularly for construction work.

The first thermosetting plastic made its debut in 1910 in the form of a phenol-formaldehyde resin. This was some 40 years after the appearance of celluloid (thermoplastic) which, in turn, followed years of nineteenth century experimentation with synthetic resins and materials. Since 1910, particularly from 1920 on, the papers have been filled with announcements of new plastics, until today there are now nine commercially practical thermoplastic and six thermosetting materials.

The architect looks at a material with an eye to two possible uses—the functional and the decorative. With plastics, probably more than any other material these two aspects are usually combined. Paints and lacquers made from the synthetic resins have wide color range and at



Floors designed in plastic. A new architectural use for plastic tenite has been developed for blocking off sections of terrazzo. Strips of tenite attached to ribbons of galvanized iron outline the design that is to be followed in laying the floor.

the same time have excellent durability and water, heat and chemical resistance. A synthetic fabric woven from extruded vinylidene chloride has a touch quality and a color brilliance that match the most expensive natural fiber fabrics and yet is also resistant to stains of acid or alkali, noninflammable and easily cleaned with soap and water.

The functional plastics are best grouped under two headings: those used primarily for electrical insulation parts and those used as construction material.

The electrical insulation properties of plastics have already been well tried, electrical insulation being the largest single use among the many plastics applications, and the modern architect knows well their value. Briefly, electrical pieces that must be molded, such as wall plugs, handles on apparatus, sockets, radios and other high frequency electrical apparatus, employ molded special purpose phenolics. The remoldable thermoplastic polystyrene, a fairly recent addition to the industry, is easier to mold, has the same qualities of low power factor (high dielectric properties, high resistivity and low moisture absorption) and may in the postwar eras supplant the low-loss phenolics.

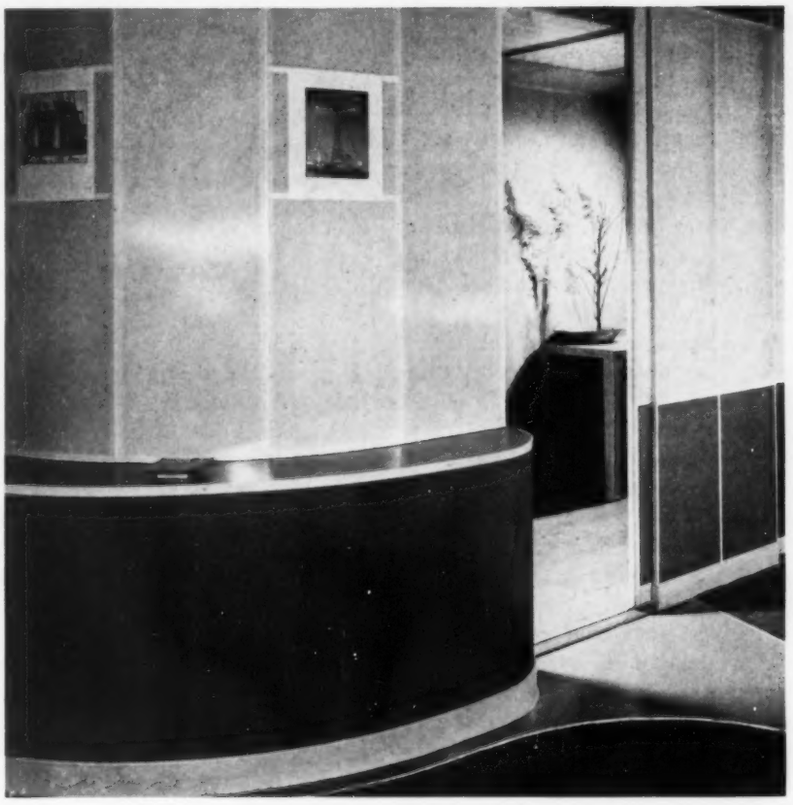
Wire coverings of vinyl butyral, an elastic plastic capable of being tightly coiled at low temperature and maintaining perfect flexibility and insulation properties, will, without doubt, supplant even the natural rubber in this use.

At present, diverted entirely into the wiring systems on boats, planes and war structures, the vinyls give way to ethyl cellulose, which is frequently used on telephone wiring.

Laminated fabrics (fabrics impregnated with resin, then pressed together and so bonded by heat and chemical change) are machined, tooled, sawed and polished into electrical coil forms and, in fact, into every type of insulation requiring the regular molded piece. The plastics field is open to development, of course, but is already well established by past performance.

Plastics as a straight construction material is actually just entering adolescence. A full-blown maturity will be the inevitable result of the present war period which has put traditional construction materials of metal, wood and tile on the scarcity list. It is interesting to note, to be technical for a moment, that phenolics, cellulose acetate and polystyrene, to mention a few, rank above wood in specific gravity; that plywood has more tensile strength (ability to withstand strong pull of weight from either end) than glass; that phenolics, polystyrene, cellulose acetate and methyl metacrylate have a higher specific gravity than concrete. The real challenge to the designer comes, however, in the fact that the ratio of tensile strength to specific gravity of plastics is superior to that of zinc, die castings, glass, lead and concrete. Following are a few constructive applications that are indicative of the potentialities of plastics for school use.

Possibly the plastics development that has received most publicity, largely through the truly sensational



Strips of white plastic made of shatterproof tenite run vertically on the walls, holding translucent plastic panels in place. Other tenite shapes are used to trim the curved counter edge and as dividing strips between the carpet and the linoleum.

overnight construction of housing projects, is laminated wood and its counterpart, the prefabricated house. Laminated wood consists of several layers of wood fully impregnated with a plastics resin, such as phenol-formaldehyde, which are pressed together and fused by chemical change into a highly compact and durable building material.

The laminates, as adaptable as many metals yet more economical, are being used today in the construction of barracks, hangars, auditoriums, barns and similar large buildings. Arches of laminated wood span 300 feet across the ceilings of chapels now being built at Army posts. Schools, gymnasiums, laboratories and theaters are specifically suitable for this material. Prefabricated plywood houses offer a quick and cheap construction method and seem destined for use as schools where the theory of class and group segregation is practiced.

The inside walls of the prefabricated house have a surface of unbleached muslin bonded on with a resin. Further decoration can be applied on this muslin easily; only one coat of paint is needed. The outer wall is treated chemically for weather and fungus resistance. Between these two plywood layers insulation and the electrical and plumbing systems are inserted before delivery to the house site. Windows, doors and wall sections come in separate units ready for assembling. Corner and wall joints, resin sealed, are stronger, according to official tests, than the nailed-beam joints.

A new entry into the construction field is a phenol-lignin block. This piece, designed to replace the clay tile and magnesite used for wall construction, will withstand all strain tests. Its salient feature is its comparatively light weight. This means that the block, particularly when used in the construction of tall buildings, effects a reduction in the amount of steel needed to carry the wall load. Again, plastics ease the budget with no loss in mechanical efficiency. In fact, the money saved may mean that additional piano, basketball court or lecture room for the school.

Wall panels of plywood, resin-treated pressed wood and, particularly, panels having a urea-formaldehyde surface cost only a fraction of ceramic tile and surpass in color range (the tones obtainable and the color fastness) any wood or tile material. These panels serve the functional purposes of partitions and insulation materials; many are endowed with acoustical board properties. Thoughtful arrangement of color tones and the panel shapes, plus imaginative use of the extruded strips of plastics that lock and reenforce the panels, will result in an interior of maximum effectiveness.

Increasingly popular is the use of the glass brick, the translucent partition or ceiling. A plastics translucent molded polystyrene block, 6 feet square, which can be produced in six colors and a "stone" effect, achieves special rigidity and strength through application of a resin cement between the blocks. Originally developed for color and decorative use, there is now a surface finish that will protect the blocks from scratches. Thus, more durable, these thermosetting blocks take on new structural significance.

School builders also must not pass over the transparent acrylics, now used extensively in bomber noses and gun turret domes and in the interlayer of safety glass. In addition to their dependability for exterior use, the acrylics allow an ultraviolet ray transmission that far exceeds that of glass, and a normal light transmission of 91 or 92 per cent, a figure also considerably higher than that of normal vision glass.

In addition to the basic structural applications, plastics come in for a prodigious share of architectural hardware and secondary building equipment. Again utilitarian, their very nature in terms of color, surface touch and flexibility of design makes the practical equipment something to be displayed, not hidden like a guilty secret.

One such application, particularly welcomed by schools, is a transparent

polystyrene strip which, when attached under a workshop table rim or along a wall, supplies an attractive crystal line and allows for an electrical outlet every 8 inches. The strip facilitates rapid installation or removal, a quality that is highly desirable in the constantly changing electrical layout of school workshops, laboratories and auditoriums. Lower initial installation cost is an important feature of this exterior electrical system.

Terrazzo floors, common in school halls, when sectioned off by plastics strips, bring to a monotonous corridor effective patterns of contrasting color and shapes. The strips of extruded cellulose acetate butyrate are laid down in the desired contours before the cement-marble crush is poured onto the base. Available in several colors, these strips also are used for table and desk edgings in place of metal strips, which require constant upkeep and do not have comparable resistance to stains and wear.

General, nonglare illumination is a primary credo of every wide-awake school. The first application of plastics to the field of illumination came with the molding of urea housings for overhead lamps. Though still used, this method of individual lights is frequently being replaced with illumined strips of transparent plastics sheeting that run flush with the ceiling surface. These cellulose acetate shields are lightweight, nonshatterable and pliable. They solve the illumination problem with efficiency and in terms of simple line and unobtrusive shape.

Acrylic hardware — transparent doors, partitions and handles — increasingly assumes the task formerly assigned to expensive bronze and brass or wood. Methyl methacrylate, with its peculiar property of edge lighting, gives compelling lightness to huge service doors. In schools in which swinging doors of wood or metal are often the scene of headlong accidents, these acrylic doors become a safety measure as well as a decorative feature. Transparent handles will not show fingerprints or demand constant upkeep. Comparable is the saving made by the use of acrylic knives and forks, which can be easily cleaned, are resistant to acids and alkalis and will not tarnish.

So the list goes—from doorknobs to flooring to pipe to elevator cabs—with many construction applications still unmentioned and many more still in the chemists' test tubes. Largely created because the need arose, there are still plastics that are well into advanced stages of development, yet remain unexplored by the modern builder.

The decorative applications of materials as opposed to the strictly utilitarian are, with plastics, largely a matter of hair-line distinctions. Possibly the most strictly frivolous and as yet little used plastics are the fabrics. These synthetic fibers are produced by forcing (extruding) a molding compound through extremely fine holes. Nylon and rayon are plastics that have received hard use by the public. Not so practical but infinitely rich in color and texture are woven fabrics of extruded vinylidene chloride tubing. Woven through the coarse web of a neutral material or with strands of the same nature, these fibers create materials that are sunfast, elastic, noninflammable, nonshrinking, and resistant to water and chemicals. Their greatest value to schools lies in the fact that these fabrics will not fade or stain. Dirt, acid or alkali stains are easily removed with soap and water.

Somewhat less flamboyant, but already established commercially, is a woven upholstery seat of the extruded vinylidene chloride. Generally acknowledged to be superior to the natural rattan or reed seating, this plastics covering, like the plastics drapery, will not stain or crack, is not spoiled by liquids and can be cleaned by strong soaps or solvents. The color range, unlike ordinary seating, is practical and limitless, allowing full harmony with the color scheme of the surroundings.

The future for plastics is impossible to blueprint, but one thing is certain—that future lies in the imagination and trust of the man who wants efficiency, economy and beauty when he builds—whether it be home, or factory or school.

CONSTRUCTIVE T

ELTON R. deSHAW

HEAT loss in school buildings occurs in two main divisions: first, the construction and, second, the heating plant. Almost all our buildings are designed for efficient operation, but sometimes methods of construction that tend to reduce the heat loss are not incorporated.

The greatest saving of heat loss is made by insulating the top floor ceilings adequately. Without considering the fact that heat rises, it is logical that lath and plaster are better conductors of heat and cold than any type of masonry or frame side wall. The proper amount of insulation should be about 4 inches of loose or bulk insulation, blanket or quilt. This should be applied directly over the ceiling lath or slab. Buildings of frame construction can have their side walls insulated by the blowing method. For the most satisfactory results one of the commercial insulating companies should be consulted.

The next big source of heat loss is around the windows. The brick stop bead that closes the space between the window frame and the masonry should be removed for inspection. Carefully tuck oakum between the brickwork and the window frame and apply a good grade of calking compound before renailing the brick stop bead. Inspect the wood sill resting on the stonework or brickwork; if the space does not permit the use of oakum, at least calk with a calking gun to close the space to the passage of air. Some window frames are designed with a metal weather break strip between the wooden sill and the masonry. Every school should have a calking gun equipped with bulk mastic or the cartridges.

Are the windows tight or do they rattle? The stop beads on the window frame should be adjusted to

TIPS ON SAVING FUEL

ENGINEER, UNIVERSITY OF THE STATE OF NEW YORK, ALBANY, N. Y.

take up the play. One popular method of cutting down this heat loss is by the application of a metal weatherstrip. In most communities today, however, metal weatherstripping cannot be purchased. The old-fashioned storm sash are an excellent investment. These storm sash, securely applied, make a great difference in heat loss. They will also tend to stop the habit of some teachers of opening windows, thinking that by so doing they are ventilating the room. This is an erroneous impression as it may, and frequently does, throw the heating and ventilating system off balance.

If the schoolroom is equipped with automatic heat regulating devices, the school custodian should carefully check the regulating and controlling units. If there are ventilating units, as well as cast iron radiators, the radiators should be shut off before the unit heaters. Valves and traps should be checked at least once a year. If a valve is found to be bypassing steam, a note should be made so that the first time the plant is shut down the condition can be corrected.

Some cast iron radiators exposed on the wall are covered by an enclosure or shelf resting almost on top of the radiator. No shelf should be within 4 inches of the top of the radiator. The metal lining should curve downward at the back to increase the acceleration of the passage of air. If the enclosure extends across the front of the radiator there should be a clear opening at the floor level not less than 5 inches high. Many times, the efficiency of the radiator can be improved by increasing the number and size of openings on the top of the enclosure.

If a cast iron radiator is recessed in the exterior wall, its efficiency may be impaired because the air cannot circulate around its sections. In that case either remove the grille face and leave the radiator exposed or install a small blower at the bottom of the grille so that forced circulation can be accomplished. The metal deflectors between the wall and the radiator should have 1 inch of insulating board between the wall and the deflector.

At the beginning of the heating season the safety valve on the boilers should be tested. At that time, when the makeup water is agitated the engineer should blow off several inches of water until the discoloration clears. In general, boiler compounds and boiler treatment liquids are not necessary. The operation of the heating and mechanical equipment should be in the hands of competent employes.

Clinkers may be caused by poor operation or the wrong grade of coal. Properly fired boilers will not produce large clinkers. The engineer should keep a uniform rate of fire. If clinkers continue to form it is suggested that the coal be purchased from another source. The ash pit should be cleaned out completely before the fire is shaken.

Inefficient boiler operation is often caused by dirty tubes. The tubes should be kept clean and the staff should be provided with the proper sizes of flue brushes. There are still many boiler rooms without proper equipment to do a first-class job.

If oil burners are used as the heating elements they should be carefully and frequently checked for economical operation. It is to the district's advantage if the engineer is permitted to take a short course in oil burner operation and is trained in the use of a draft and CO_2 gauges. Testing kits are relatively inexpensive and should be in every boiler room. The draft breaker in the smoke breeching should be so adjusted that when the burner goes on there is no back draft. All boiler rooms having oil burning equipment should have a positive supply of fresh air into the room.

All supply and return lines should have the pipes covered with insulating material, the thickness of the material depending on the size of pipe. If some of the covering in the unused basement spaces has started to disintegrate, steps should be taken to cross-vent the area or otherwise remove the dampness.

If the exhaust air from the classrooms is collected into one or more ducts extending through the roof, each of these flues should have a damper of manual control. The flues should be dampered off when the school is not in session. The fresh air supply should likewise be controlled. This does not apply to the auditorium or gymnasium which is in use during the evening.

Building entrances should be designed with a vestibule and equipped with both interior and exterior doors. Some schools erect storm vestibules outside the building for use during the winter months. Under any conditions *all* doors should swing out.

The usually accepted standard for temperature of classrooms, with the exception of the kindergarten and similar rooms in which small children play on the floor, is as close as possible to 68 or 70 degrees. If, however, owing to climatic or outside conditions, the relative humidity falls below 40 to 50 per cent the temperature specified is likely to be a little chilly and uncomfortable. The lower the humidity goes the higher the temperature must be to maintain comfort.

If the heating system was designed with humidity control, it should be checked and placed in working order. If there is no humidity control dishes of water or tubes hung on the back of the radiators will help. Several independent humidity producing units now on the market are satisfactory for classrooms or libraries. Proper humidity will save as much as 2 degrees of temperature.

STONEHILL MURALS

Washington Irving High School, New York

Photographs by Arni Studios, New York City

The Stonehill murals, presented to Washington Irving High School, New York, by the family of the late William McAndrew, founder of the school. The five panels, titled "On the Green, Nieuw Amsterdam," show the early Dutch settlers of New York having a festival on a late summer day. Above: A general view of the five panels as they appear in the school cafeteria. Below, left: A section of the center panel showing housewives laying out a long table of refreshments. Below, right: Dutchmen try their skill at ninepins. A Dutch boy and an Indian act as pin boys for the bowlers. The mural is the work of Mary McAndrew Stonehill.

School District and State
In North Carolina

M. M. CHAMBERS
SPECIALIST IN SCHOOL LAW

DURING the last decade North Carolina has made a well-deserved name for herself in the educational world by consistently maintaining the policy of providing out of state funds the entire cost of operating local public schools, including teachers' salaries on a state schedule, for a specified number of school months in each year. Thus, North Carolina pays out of state funds a larger proportion of school costs than does any other state of comparable size and population.

It was in 1931 that the state first underwrote the cost of the minimum school term of six months that the state constitution makes mandatory. Two years later the legislature extended the state support to a term of eight months and this has continued to be the standard. At the same time the legislature abolished all pre-existing school districts and created for each of the 100 counties and for each of approximately 60 cities a local school administrative unit. This unit is legally distinct from the municipal corporation and the boundaries of the two do not always precisely coincide.

Local Taxes Can Be Levied

The county and city school units are authorized, with the consent of their voting constituencies and with the routine approval of the state school commission, to levy local taxes for the purpose of supplementing the state-supported school program. For example, they may add a ninth month to the school term, employ teachers supernumerary to the number authorized by the state or increase the salaries of teachers beyond the amounts prescribed in the state salary schedule.

A modern joint-contributory retirement system for teachers and other state employes was created by the North Carolina legislature in 1941. It stipulated that in the case of local units levying local taxes to supplement the state payment of teachers' salaries in the ways indicated the local unit must also provide for its contribution to the state retirement fund in regular proportion to the amount of salaries it disburses over and above the amount of salaries underwritten by the state.

A taxpayers' suit was brought by residents of the city of Charlotte to prevent the collection of a local tax for that purpose, on the ground that the retirement act was unconstitutional insofar as it made mandatory the local contribution to the fund. The argument was based chiefly on a clause of the North Carolina constitution which prohibits taxation by a municipality "except for a necessary expense," without submitting the question to a popular vote; and also partly upon another clause which stipulates that no man or set of men are entitled to "exclusive or separate emoluments or privileges from the community, but in consideration of public services."

The North Carolina supreme court refuted these contentions, pointing out first that "maintenance of the public schools and the furnishing of those things which are reasonably essential to that end are within the mandatory provision of the constitution, unaffected by the 'necessary expense' provision contained in the municipal section of the constitution," and "the units of the public school system do not exercise derived powers such as are given to a municipality for local government, so general as to require appropriate limitations on their exercise; they express the immediate power of the state, as its agencies for the performance of a special mandatory duty resting upon it under the constitution and under its direct delegation."

The court also proceeded to show that there is sound ground for regarding retirement benefit payments not as mere gratuities but as deferred payments of salary and, hence, not "separate emoluments or privileges." On the question of whether the disputed local tax would be for a public purpose, it was said, "the expected improvement in standards of service and the stabilization of teacher employment are sufficient to constitute a public purpose and justify the imposition of the tax."

Retirement Act Constitutional

Thus, the conclusion was that the retirement act is a constitutional and valid expression of the legislative will, both generally and in its application to the local administrative units with which it deals. "The contribution to the state retirement fund required of the Charlotte city administrative unit is mandatory in character, does not require submission to popular vote and is not affected by the maximum tax rate heretofore adopted by this unit in voting supplements to the schools or the suggested limitations of the city charter."[1]

The decision sustained the constitutionality of the Teachers' and State Employes' Retirement Act in all respects wherein it was challenged and is important from that standpoint alone. It is even more interesting and significant because the opinion of the court written by Justice Seawell and a specially concurring opinion by Justice Barnhill made a clear exposition of the relations between state and school district and between school district and local municipality. These matters are too generally

[1]Bridges et al. *v.* City of Charlotte et al., 221 N. C. 472, 20 S. E. (2d) 825 (1942).

poorly understood, even by educators and lawyers, not only in North Carolina but in other states as well.

Said Justice Seawell: "The present situation will be much less confusing if we remember that the Charlotte school district operating as a special charter district (prior to 1933) came squarely within the revolutionary fiat of the School Machinery Act of 1933: 'All school districts, special tax, special charter or otherwise, as now constituted for school administration or for tax-levying purposes, are hereby declared nonexistent.' Under the further provisions of this act the Charlotte district became a city administrative unit, and the trustees of the former district were retained only as the local administrative body of that unit, shorn of all administrative authority other than that which they get from the School Machinery Act.

"This concession was made to the governing body of the old district, no doubt, to cushion the shock of total liquidation and out of deference to the importance of the trusts that had been committed to them—the magnitude of the schools—and to conserve the experience and interest built up in administration. But here the old regime ended and the new dispensation began."

Justice Barnhill's concurring opinion further clarifies the three-way relationships between state and school district and city or county: "The legislature enacted the School Machinery Act of 1933 providing for a state-wide, uniform system of public schools for a term of eight months. This act creates two types of local administrative units—county and city. The city unit, with respect to schools, has the same rights, powers and duties, and operates and is dealt with, as a county. The city school administrative unit and the municipality as such are treated as separate entities.

"Any local administrative agency, with the approval of the tax-levying authorities within the agency and the state school commission, in order to operate schools of a higher standard than those provided by the state support, may supplement any object or item of school expenditure, including an extended term not exceeding a total of 180 days. The tax levy to provide the funds with which to supplement must first be approved by the electorate. The amount raised by taxation becomes a part of the total allotment for operational expenses and must be budgeted and approved by the state school commission."

The justice agreed with his colleagues that the compulsory local contribution to the state retirement fund by such districts, and the levying of a local tax for that purpose without submission of the question to popular vote, is constitutional and must be sustained.

When providing for full state support of local public schools for a specified school term and on state-determined standards, North Carolina wisely left the way open for any local school unit to operate its schools for a longer term and on higher standards by levying local taxes to pay the additional expenses thus incurred. At the same time the state adhered to the almost universally approved thesis that a local school administrative unit, although its boundaries may nearly or exactly coincide with those of a county or a city, is not to be confused with the civil county or with the municipal corporation.

A local school district is a direct administrative agency of the state, possessing in that character an existence quite distinct from any city or county with which it may be practically coterminous. In that character it has its own boundaries and its own electorate and its own governing body. It has whatever powers are delegated to it directly by the state, including whatever elements of local autonomy the state legislature may deem wise to give it. The legislature can enlarge or diminish these powers. For that matter, it can create or abolish local districts altogether.

The districts are subject to mandatory directions laid down by the state legislature and in enacting such mandates the legislature is not hampered by constitutional provisions applying to civil counties or to cities. Public education is a state function in the exercise of which the state deals directly with the people through administrative units of its own creation. A clear recognition of these principles in every state would do much to clarify problems of school support and control and to facilitate the general improvement of school administration and the diffusion of upgraded educational opportunities for all the people.

Definition of a "Frill"

ROY J. McMURRAY
SUPERVISOR, PHYSICAL EDUCATION, HEALTH AND SAFETY
PUBLIC SCHOOLS, SAGINAW, MICH.

MISINFORMED individuals frequently make rash statements regarding "frills and fads" in education, but up to the present time no one has produced a good explanation, substantiated by facts, of what these so-called frills are.

The methods of teaching today are not the same as when grandpa danced the polka and when grandma wore a bustle, but neither are our living conditions. We do not use all the sawdust from the old mill to make bustles today, but we do use it to make other products that are just as useful. We use all the excess sawdust we can get to fill the jumping pits where boys and girls can develop their physical ability. We still dance the polka, the minuet, the old-time quadrille and folk dances, but we also dance the 1942 versions.

If health and physical education and vocational education are "frills and fads," let's have a lot of them to step up business, improve our social conditions and win the war. I hope that the present day educators who have helped our people progress from the town crier to the modern radio will keep right on progressing. They have given a good account of themselves and, even more, they have proved that they know what they're doing and how to do it.

The boys and girls of the United States do not need gloom spreaders; what they need is a good pat on the back for their accomplishments. This present crop of boys and girls can defend themselves and America.

In the Interests of Democracy

Responsibility Must Be Shared

WALTER C. REUSSER
DIRECTOR OF SCHOOL ADMINISTRATION
UNIVERSITY OF WYOMING

A CRITICAL examination of the relationships of superintendents of schools to boards of education, to communities and to teachers reveals certain well-accepted but often ill-defined concepts. In the unit organization of a school, the superintendent is the responsible head of the school upon whom the success or failure of the educational plan ultimately depends. The lay board of education, which is recognized as the group representing the community, selects its chief executive officer and delegates to him authority commensurate with his responsibility. This delegation of authority to and the responsibility of the superintendent of schools are well recognized in current literature on school administration. They have become the basis of school organization for the past three or four decades.

Although the accusation has frequently been made that this grant of authority to the chief executive of a school system leads to autocratic administration, it does not follow that democratic administration cannot be practiced without the removal of this authority. There is, in reality, no conflict between authority and democracy. At all levels of government there must be certain officials who are endowed with the authority for executing the functions of government allocated to them. This is as true in school administration as it is in the execution of any other governmental function.

While participation in policy making may be widely disseminated among the members of the staff, it has been recognized that the execution of policies of the managerial type should be placed in the hands of those who have proved their ability. This permits them to carry out the functions with efficiency and dispatch and serves the entire group better than would the allocation of policy execution to a large group. It is futile to assign duties to officials without giving them the necessary authority to execute these duties.

The most successful superintendent is one who shares his responsibility with members of his staff, with pupils and with the community

The question of making school administration more democratic is not primarily one of the allocation of responsibility and the granting of authority, but is rather one of defining how this authority shall be used and how the responsibility shall be discharged. The proper discharge of the responsibility of the superintendent rests quite as much upon the creation of a desirable social policy as it does upon the fact that he is given authority. Since education is a social service to the community and to the state, it is essential that this service be administered in accordance with the best public policy.

If we believe in the tenet of democracy that group judgments are superior to judgments of individuals, we must accept the proposition that in a democratic school the best policy will grow out of the combined judgment and experience of the entire staff and regard this policy as superior to that emanating from the superintendent alone. The granting of legal authority and the exercise of public policy are, thus, not in conflict with each other. Democratic school administration will give a superintendent responsibility and authority but will also expect him to discharge this responsibility and exercise his authority by bringing out the best judgment and policy of his entire staff.

This principle has been characterized by Newton Edwards as that of "shared responsibility." In accordance with this principle the superintendent of schools should seek the active cooperation of all members of his staff in the formulation and execution of policies. He should deliberately seek from members of his staff the most progressive ideas, the most efficient practices and the most helpful ways and means for the promotion of the school as a whole. This active cooperation will extend to the pupils who should be drawn into council regarding matters in which their knowledge and experience are helpful. They should not only be given a chance to decide for themselves matters concerning their own individual projects and activities but should also share in the formulation of policies affecting the whole school. In addition to teachers and pupils, community thought should be sought on matters of school policy and practice. Such a school does not only express the superintendent's policies; it is a community school; its policies are those of the whole group.

Although this principle of shared responsibility is a sound one, there are today many schools in which it is more nominal than real. Because of the unique position of leadership held by the superintendent of schools, it is not uncommon to find him alone exercising the authority granted him. There is sometimes confusion between authority and domination. This is not said in criticism of superintendents alone; often teachers and communities are as much at fault as the administrator.

There are two aspects of the superintendent's responsibility for the conduct of a school system: (1) keeping the machinery of the school running smoothly, and (2) giving attention

to the kind of schools kept and the quality of the educational experiences offered. Some evidence that many superintendents are giving major thought to the first aspect is presented in the study of adaptability by Mort and Cornell, "American Schools in Transition." The nine adaptations studied are: kindergartens, reorganized high schools, special classes, homemaking for boys, adult leisure classes, extracurricular activities, elimination of final examinations in the elementary school, integrated curriculums and supplementary reading.

The study shows that the rôle of school superintendents with respect to the nine adaptations is largely one of feeling the pulse of the community, keeping things running smoothly, preventing any untoward circumstances from arising and exercising little real leadership in the improvement of the school's program. It must be stated, however, that school administrators have taken the leadership in the introduction of the newer adaptations in more than half of the schools in which these adaptations have been made. In the schools that have not made the adaptations the dominant rôle of the superintendents is one of neutrality, and there are nearly as many schools in which he is ignorant of or opposed to the adaptations as there are schools in which he is exercising any distinct leadership.

It should not be understood that the first aspect of the superintendent's work mentioned is unimportant; on the contrary, it is always necessary and often of primary significance. It is the function of the superintendent to harmonize the various factors and groups within the community and the schools, but the greatest contribution of democratic administration is not to the first aspect but to the second. The improvement of the schools, educational leadership for the purpose of establishing greater equality of opportunity for all children and a program that will interest and challenge all the boys and girls in the school are the ends sought. The smoothly operating school is but a means to that end.

The same study contains reference to some 2400 statements made by teachers concerning the obstacles to needed changes. Of these, some 1700, or 71 per cent, directly involve the administration. Although it is undoubtedly true that many teachers "pass the buck" for inefficiency by placing the blame on their fellows, it is significant that so large a proportion of the teachers should cite the administration as the retarding influence.

There is no lack in the literature of democratic administration of the affirmation of administrators and teachers in their belief that there is need for greater democratization in the schools. In one study of the opinions of 457 administrators and 1453 teachers concerning democratic administration, approximately 97 per cent of the administrators and 98 per cent of the teachers believe that the continuance of democracy is dependent upon the fullest education of all its members. Almost as high percentages, 95 per cent of the administrators and 93 per cent of the teachers, agree that the schools must be operated democratically.

The superiority of group planning and thinking over individual planning and thinking is asserted by 95 per cent of the administrators and by 87 per cent of the teachers. Eighty-seven per cent of the superintendents and 90 per cent of the teachers agree that the source of responsibility in cooperative administration rests with the group rather than with the administrative staff.

There is no conflict between the legal structure of public education which delegates authority to state and local groups and the democratic administration of the schools. Democratic administration is not inherent in any structural pattern of the schools; it is possible only when administrators and teachers are truly democratically minded.

Curriculum Revamped for War

ALVIN J. ARMSTRONG
PRINCIPAL, MENASHA JUNIOR AND SENIOR HIGH SCHOOL
MENASHA, WIS.

DECEMBER 7, 1941, brought the schools of Menasha, Wis., to the realization that they must do something for their pupils to fit them better for their participation in the emergency confronting our country. What could we do? How should we proceed? After a number of faculty meetings it was decided that we could change our curriculum in a number of ways.

In the science courses, especially, it was thought that the curriculum could be renovated so that a large fund of information closely related to the war effort could be given.

A special course was inaugurated that was required for all senior girls. This course included six weeks of training in each of three subjects—nutrition, mental hygiene and home nursing. The courses were started immediately.

In physical and health education our curriculum was renovated to bring it into line with the objectives of the armed forces. More formal exercises were introduced, especially for the large muscle activity. Military drill and first-aid routine training were also added.

Special classes in machine training were introduced to all senior boys and their programs were adjusted so that they could participate. We were surprised to learn that these boys who, until then, had never participated in this type of training advanced more rapidly than the group that usually took the course and had more experience.

No doubt, other schools have discovered, as we have, that mathematics has been neglected in our present educational system. This coming school year all seniors will be required to take a general mathematics course unless they have studied it in previous years.

With the federal government demanding so many people with commercial training every senior will be required to take one semester of typing, which will at least teach him the rudiments of this important subject.*

*Mr. Armstrong will be glad to furnish detailed outlines of these courses.

MATHEMATICS

An Elementary Stumbling Block

THOMAS A. FITZSIMMONS
PRINCIPAL, LINCOLN SCHOOL, WALLINGTON, N. J.

IT IS entirely possible that the reason for the abhorrence of the average elementary pupil for arithmetic might be due to the continual changes in the arithmetic curriculum that upset the emotional stability of the child. Particularly is this true when one year he is expected to know the 100 addition and 100 subtraction facts by the end of the third academic year and then finds the 100 subtraction facts repeated in the fourth year, together with the multiplication and perhaps the division facts. If the 100 subtraction facts are known, they must be repeated, nevertheless, because they are scheduled for that year. The child becomes bored, but what does that matter? The educational setup must be served. In the textbooks for the grades, problems are presented with situations that either were true years ago, never were true or are so outmoded now that the child questions the advisability of working problems with such prices as 25 cents for a dozen eggs or 10 cents for a dozen oranges.

Subtraction of fractions, which is seldom necessary in real life situations; division of one fraction by another fraction; finding the square root and cube root are but small samples of what the elementary child must put up with in arithmetic. Not one of these operations has any practical value for the child at the time he is learning the method involved or any practical use when he becomes an adult. Why shouldn't the child dislike arithmetic—there isn't anything to like.

Why is it not possible for authors of arithmetic texts to write books that center around the actual school life problems of the children? To my mind there is no sound reason why this cannot be done. I will admit that teachers and authors are becoming conscious of this necessity; something is being done, but not enough. Within the past few years we find a few problems and pictures designed to stimulate the child's interest making an appearance. However, many of the problems are still as vague as ever as far as the children are concerned. Educators have to go farther. We must cut out the nonessentials and adopt procedures that will challenge the interest of the pupil at the time he is in school.

The fundamental facts of addition, subtraction, multiplication and division must be known; that is certain. Drill on these facts should be practiced, but why can't the drill be associated with games, experiences and situations that the child is actually living at the particular grade level?

Elementary pupils do not care about problems that they will encounter when the adult stage is reached. The problems should be centered around their experiences at the particular time.

Besides reducing the amount of material to be taught to the elementary school child, I believe that the schools should take into consideration the individual pupil's capacity for arithmetic learning and his rate of assimilation of such factual content. This will necessitate concentrated study on the part of the teachers as to the manner in which a child's mind reacts to numbers, problems and situations which he, in his limited environment, is capable of reasoning.

This type of procedure encourages progress on an individualized basis, yet it does not hinder the teaching of the facts and fundamentals in group fashion. Let the child keep a record of his progress for each step of his arithmetic process. With this information to guide her, plus her own records and checks, the classroom teacher can give the remedial and helpful suggestions so necessary for the advancement of the pupil in arithmetic.

It may be said that we can catalog individuals in special groups, such as reading; this is true only in a limited sense. We still have individual children, each one different as to his personality traits. We have to consider those traits; it is my belief also that each child has an individual arithmetic sense that regulates his rate of comprehension, assimilation and application of arithmetic facts.

More consideration will have to be given to the reasons for forgetfulness on the part of the child who knows facts one week but forgets them the next. We must strive to ascertain the reason for this lapse and not blame it entirely on the child and his inability to remember. Perhaps the material was not presented thoroughly; enough drill and application might not have been given. Let us take ourselves in hand and make sure that the fault does not lie in the method of presentation.

The periods in arithmetic will, of necessity, become less formal; the asking of questions, discussion of difficulties and their possible solution must pervade each arithmetic period. The teacher must devise ways and means to challenge the child to ask questions when he is in doubt concerning any process in arithmetic. When a teacher asks if there is any question in regard to a problem that has been explained, it is disheartening to have no hands go up when she knows from long experience that there are many pupils who do not really understand the problem. If teachers can conquer the pupils' reluctance to ask questions because they fear the possible disapproval of their classmates, a good beginning will have been made in carrying forward the process outlined.

I would discourage the working of arithmetic problems at home. The school is the place for this work, mainly because the teacher is present in case of difficulties; work at home evokes help from brother or sister, mother or father. If that source is not available the child seeks the answer from some other child's paper the next morning before school starts. Enough practice on given facts and procedures can be given in the classroom to obviate the necessity for an outside assignment.

Girls, Grades and I.Q.'s

Achievement tests raise some interesting questions about common methods and practices in evaluating scholarship

DEAN LOBAUGH
PRINCIPAL, WALLA WALLA HIGH SCHOOL, WALLA WALLA, WASH.

FOR the last three years, Walla Walla High School, Walla Walla, Wash., has given a standardized high school achievement test to its seniors (the Myers-Ruch High School Progress Test). The class of 1940 took the test at the end of the senior year; the classes of 1941 and 1942 took the test at the beginning of the senior year.

The purpose of this article is not to evaluate the test as a guidance instrument; it is, rather, to point out a few significant ways in which the test throws light on some of our common practices in evaluating scholarship.

The test deals with four major areas in secondary school instruction—English, social studies, mathematics and science. By requirement, each pupil has had at least one year's work in each of these fields.

First, let us consider the relationship between scholarship, as represented by teachers' marks, and high school achievement, as indicated by scores on this test.

In the class of 1941, the grade point average of the top 15 per cent on the basis of scholarship (seven semester average) was 3.31; but the grade point average of the upper 15 per cent of the class as determined by the test was only 2.96.

Another interesting comparison involves the National Honor Society. Members are chosen from the upper 15 per cent of the class. In the class of 1940, 14 persons not chosen for the honor society made scores higher than the average made by its members; in the class of 1941, 29 persons who were either not eligible or not chosen for the National Honor Society exceeded the average of the scores made by the society members. This is not to imply that the members of the society did not deserve their membership, for they are chosen on the basis of many qualifications, but does further stress the difference between class marks and achievement on the objective test.

Some individual discrepancies are interesting. In the test given the class of 1940, the valedictorian ranked 36 in a class of 250; the salutatorian ranked 105. In the class of 1941, the valedictorian placed 19; the salutatorian dropped to 42. On the contrary, a boy who placed second on the 1940 test and ranked at the 98 percentile mark on the national norms was 49 in general scholarship in his class, and the boy who led the class in the 1941 test was so poor a class performer that he failed of graduation!

Now, let us note how the girls and the boys fared in relation to one another on the test. In the class of 1940, the first 14 scores were made by boys; in the class of 1941, the first seven scores were made by boys, and only three girls got into the top 15. In the class of 1942, the first four scores were made by boys, and only three girls placed in the first 15. If we look at the other end of the scoring table, we find that girls tend to dominate the low scores, although not as strikingly as the boys dominate the high scores. In the 1941 and 1942 classes, eight of the bottom 15 scores were made by girls each year. If we look at the medians for all the girls and all the boys, the results are perhaps more significant. In the class of 1940, with scores ranging from 9 to 96, the median score for the girls was a full 10 points below the median for the boys, yet in this class the grade point average for all the girls was 2.19 as against 1.97 for all the boys.

Finally, what is the relation of the intelligence quotient to the test score? An intelligence test is given at the time the pupil enters high school; how well may we predict from it what the pupil will be able to acquire in academic information—if that is what the test measures?

If we take the class of 1942 as an example, we shall not go far astray. The 60 persons who fell into the upper quartile on test results had an average I.Q. of 121; those in the second quartile on test results had an I.Q. average of 113; those in the third quartile averaged 105 on I.Q., and those in the fourth quartile in the test were persons whose I.Q. average was 95.

There were a few noteworthy variations, but it might well be argued that the validity of these quotients could be challenged. The first five persons on the 1942 test had I.Q.'s of 133, 132, 133, 124 and 143, respectively; at the other end the figures were 77, 77, 74, 88 and 85.

Certainly, this little summary raises several obvious questions. Let us ask them and leave the answers to the reader:

1. Shall we simply assume that a grade given by a classroom teacher is a composite judgment based on many items, of which knowledge of the subject matter is only one?

2. Is such a test unfair to girls, since they tend to meet only the minimum requirements in science and mathematics, while many boys specialize in these fields? Or is it fair to say that it is the girls who get the grades and the boys who learn something?

3. Is the intelligence quotient a better clue to a person's high school achievement than is the average of his class grades?

Inflation Can Be Dangerous to Education, Speaker Warns

Three major objectives of the schools in their efforts to prevent another such financial crisis as developed in the last war were outlined by J. Weldon Jones, assistant director in charge of the fiscal division, Bureau of the Budget.

These aims are: (1) the maintenance of school finances to meet the impact of war and of possible postwar economic upheavals; (2) the preservation and, where possible, the improvement of the standards of education despite the economic handicaps imposed by war, and (3) the prevention of runaway inflation.

Education is a service that is essential at all times, Mr. Jones declared, and in some ways is more essential now than before the war. "Obviously, it will not be possible to maintain all aspects of school service on an unimpaired basis," he stated, "but at least we should hold the impairment to limits as small as possible."

It is up to educators to help win the battle against inflation, it was pointed out, inasmuch as inflation can be more dangerous to education as a public service and to teachers and school administrators than to almost any other group. The reason for this, Mr. Jones stated, is that education is financed more largely than any other public service from local real estate taxes, and during any period of rapidly rising prices those taxes always lag far behind.

Prepare for Long, Bloody and Costly War, Says Army Engineer

"There can be no easy victory in this war. It can end with no winners—just a few survivors. There will be no easy victory. We waited too long for that."

Major Roswell P. Rosengren of the U. S. Army Corps of Engineers told the business officials to prepare for a long, bloody and costly war.

"For victory, even hard victory, we shall give up more than tires, cars and sugar," he declared. "We shall get strong, we shall remain alert and we shall forget our selfish interests.

"If our way fails to survive it will make no difference whom we elect to Congress this fall because under Axis domination Congress would respond with only a Reichstag 'Ja.' It will make little difference how much is appropriated for schools and teachers, for only one ideological lesson would then be taught."

Peak Attendance Marks First War Convention of Business Officials

ARTHUR B. MOEHLMAN

Streamlined for serious work and without the usual social features, the thirty-first annual convention of the National Association of Public School Business Officials was held at Cleveland from October 5 to 7. The attendance of official delegates was 381, peak attendance for conventions of this group.

The effect of the war was apparent on both exhibitors and delegates. Forty-one of the better known supply and equipment purveyors made a brave showing with their normal displays definitely limited by the extent to which they had been converted to war effort.

The opening session on Monday morning was featured by a discussion of "All-Out War Effort" by Maury Maverick, War Production Board, and by Supt. Charles H. Lake of Cleveland, who spoke on "The Rôle of Schools in the War Effort." Tuesday morning's group listened to discussions of "O.P.A. Policies and Objectives," "Problems of Finance and Revenue" and Sen. Harold H. Burton's idea of the immediate and distant future.

At the Wednesday morning general session Walter Nugent of Rochester discussed "General Maintenance Problems During War Time"; Dr. J. S. Long presented some arresting facts on the "Chemistry of Paint," and J. L. McCullough spoke about "Things You Should Know About Your Roofs."

At the final general session on Wednesday afternoon J. Weldon Jones spoke on "Fiscal Management in War Time"

(*Continued on page* 45)

Left: New President Edwin F. Nelson, Hartford, Conn. Right: H. S. Mitchell.

Clarification of Tire and Transportation Rulings Asked

Because conflicting government orders regarding transportation and rubber conservation have led to a great deal of confusion among school people as to their eligibility for tires, the resolutions committee requested the Office of Price Administration to clarify the situation.

Departments of education throughout the country are being called upon in increasing measure to give extra services vital to the war effort, it was pointed out, and because of limitation of personnel these requests are becoming more difficult to meet, making it imperative that no time be wasted in transportation.

The O.P.A. was asked to issue a clarifying bulletin or take action to place on the eligible list "all public school officials, superintendents, supervisors, attendance and guidance officers in rural and metropolitan areas who require passenger automobiles for transportation from one school to another, where time limitations will not permit the use of 'other means of transportation' in order to meet the requirements of their office."

Another resolution urged the investigation of the problem of transporting athletic teams engaged in interscholastic competition. Contending that it is both "impracticable and impossible" to maintain interscholastic athletic programs without adequate provision for the transportation of teams, the committee resolved to seek an exact interpretation of the conflicting pronouncements of government agencies with respect to the advisability of maintaining interscholastic athletic competition.

Tells How to Get More Fun Out of Life at Less Cost

As our tires wear thinner and transportation problems increase, how may we adjust to get more fun out of life at less cost?

Supt. Charles H. Lake of Cleveland maintains that this is a question not only for the physical education department but also for the English department, the mathematics department, the art department, the music department and all other departments in our educational system.

"The answer to this problem does not always lie in physical exercise," Mr. Lake asserts.

W.P.B. Official Explains Priority Plan; Urges "Conservation and Substitution"

The urgent need for conservation, substitution and improvisation was pointed out to school business officials by Claude L. Hough, head of the school unit, Schools and Institutions Section, Division of Industry Operations, of the War Production Board, in a detailed discussion of the plan of the priority system.

Mr. Hough described the purpose of the various application forms that must be used by consumers to obtain maintenance and repair material, laboratory equipment, typewriters, projection equipment, softwood lumber and vocational training supplies and equipment. The War Production Board is trying to make the present orders more effective, the speaker explained.

"Specifically, I believe it is entirely possible to eliminate thousands of PD-1A applications for maintenance and repair items if we can 'educate' the suppliers to furnish such material and products on the A-10 rating under P-100, except those which have a specific limitation order against their release on a low rating. Then the supplier in extending the A-10 rating would receive a 'lift' on those ratings to enable him to replenish his stock, using any higher rating necessary in order to do so."

Numerous improvements in procedure have taken place in the W.P.B., especially in the last six weeks, Mr. Hough asserted. For example, a PD-1A application for less than $500 which receives a rating should be on its return journey to the school within four days from the day it is received. Branches are being abolished or reduced in size and consolidated wherever such action promotes efficient operations, he stated.

It was suggested that each school should centralize all priority activities in one office, probably in the purchasing department or business office. Such departments should become familiar with priorities regulations and orders of the W.P.B., particularly priorities regulations Nos. 1, 3, 7 and 13 and orders P-43, P-100 and L-144.

In conclusion, Mr. Hough urged his listeners to use the priorities system only when it is absolutely essential. "There are still too many hundreds of applications coming to W.P.B. for stainless steel, bronze name plates, monel metal sinks, new capital equipment to make improvements to property that are not essential to winning the war. You can help us by disciplining your own schools on the seriousness of the situation. Then, when absolutely necessary to apply for priority assistance, give us a clear explanation, fill out the form completely and we will try very hard to expedite your application if the evidence you submit justifies the assistance."

HOW TO HELP WIN THE WAR

Get along with what you now have.

If a replacement is necessary, try to devise a substitute that uses less or no critical materials.

Make certain that there is not a single piece of idle equipment in your school.

Contact more than one supplier to see if you can locate the item you want without priority assistance.

Try to locate used or rebuilt equipment for which priority assistance is not necessary.

Remember that a preference rating certificate does not create material. It takes it away from some other use—perhaps a war plant, a naval ship, an army camp or a marine on Guadalcanal.

Teacher's Importance Will Increase During War Time—Supt. Lake

The teacher, ever important, becomes in war more important still. This is the belief of Supt. Charles H. Lake of Cleveland, who spoke at the Monday meeting. Said he:

"It is the teacher who can develop in pupils intelligent understanding of the issues and conditions that are now confronting us.

"It is the teacher who can train youth for the work that must be done.

"It is the teacher who can develop confidence in pupils so that we can meet successfully the tests that war imposes upon us.

"It is the teacher who can implant in the fertile minds of youth the concept of a world in which the peace of free men may not be endangered by international lawlessness.

"It is the teacher who can bring comfort to children and through them to parents when war's sacrifices and disciplines seem too arduous.

"It is the teacher who can give pupils practice and training for mental and physical fitness and balance so essential in trying times.

"It is the teacher who can organize her pupils for essential civilian services and assist them in their cooperative efforts."

Sees Paint and Varnish Situation as Reasonably Good, Thanks to Research

In no industry are research chemists working harder than in the paint and varnish field since some raw materials are difficult to obtain and workable substitutes must be found.

Some of the substitutes are turning out so well that there may be no return to the original product once the war is won.

J. S. Long, chemical director of Devoe & Raynolds Co., Inc., reviewed the effects of the war on painting jobs.

Aluminum paint for smokestacks, boiler fronts and other metals subjected to heat is one of the products for which no satisfactory substitute has been found. However, alternate materials work well for use on storage tanks.

Of the three main types of white pigments—zinc, lead and titanium—the supplies are reasonably adequate. The supply of titanium, the most important, is more than adequate at this time.

Normal requirements of linseed oil are obtainable but the glycerine from the drying oil is needed for explosives. Chemists are now at work on methods of using the fatty acid of the drying oil instead of the oil itself.

Chemists are also at work on a process to convert linseed oil, classed as a non-conjugated oil, into a conjugated type that will still be suitable for varnish. This work is coming along successfully.

Finishes of high quality frequently make use of alkyd resins, now needed by the Navy for ships, by the Army for the olive drab enamel finish on practically all of its equipment and for smokeless powder. Loss of these resins affects such paints as bulletin colors, trim and shutter colors, non-yellowing enamels and even undercoats. In their place in civilian usage, paint manufacturers have reverted to oleoresinous vehicles of the varnish type with some resulting degradation of quality.

"Paints of 1942-43 will be on the same standard of quality as paints of 1925 but not as good as the more scientific products of the last few years," Doctor Long concluded.

Emergency Adjustments to Be Made by Schools Outlined by John Lewis

"We must have education—but education adjusted to the prior claims of our war effort." John W. Lewis, assistant superintendent of schools, Baltimore, analyzed for the school business officials both the immediate and the long-range effects of the adjustments that must be made in the educational program.

Personnel in both the educational and business divisions of the school systems constitute one of the most pressing problems, the speaker asserted. He warned against allowing inferior teachers and employes to gain permanent tenure and advocated emergency adjustments in salaries and hiring on a substitute basis.

Another adjustment that will have a far-reaching effect is the deferment of maintenance and new construction. Mr. Lewis urged that the motto for the maintenance of schools be "Exteriors First." Exteriors must be maintained, he declared, to prevent rapid deterioration. Wood should not be permitted to rot; metal should not be allowed to rust.

In the field of finance, it was pointed out, education must compete more than ever with the demands of all other services for the taxpayer's dollar. "The challenge of the problem of keeping the economic machine in gear to prevent the idleness of plants and men will place greater demands than ever on education and educational leadership."

The ultimate effect of the various emergency adjustments may not be wholly bad, the speaker summed up. In the curricular revisions that may be brought about we may vitalize education in terms of human life and achievement. The shortage of help may bring a more critical evaluation of many of our programs and procedures.

Another benefit that may arise from the emergency is that the morale that has been built up may build a unity of purpose that can be applied to solving the postwar problems.

Protection from Air Attack

The standardization of plans for the protection of school children and school property during air attack was urged in a resolution which proposed that a group of American school officials be sent to England by the U. S. Office of Education to study conditions there. It was suggested that the committee should be composed of one school administrator, one school business official and a representative of the U. S. Office of Education.

Maury Maverick Wants Children Taught to Expect Discomforts During the War

"Before this war is over, we may have to run every school in the country three shifts a day without sufficient heat and with little of the equipment we now have."

Plain words, harsh words such as these were what Maury Maverick, chief of the bureau of governmental requirements, W.P.B., spoke to the business officials at the Monday session.

"Schools must teach the children the seriousness of war, how powerful the enemy is and what has to be done to beat them to their knees. (I'm not talking about indoctrinating children with hate, although it would be all right with me.)"

Here are some of the things the W.P.B. bureau chief would have school children told:

How many men are in the armies of our enemies; how many are in a division, a regiment.

That a tanker load of fuel oil is the heating equivalent of 15,000 tons of anthracite coal. Thus, for every tanker load sunk by Nazi subs or by diversion to convoy uses, there must be produced 15,000 more tons of coal. The coal must be used first to heat our Army camps, so that there may not be enough to keep our houses and schools as warm as we used to keep them.

That one infantry division in a day's battle will use 542 tons of ammunition composed of almost precious metals, taking millions of man hours to produce in the first place.

That it takes from 6 to 17 tons of shipping space to move soldiers overseas to fields of battle. That our supply lines are longer and more dangerous than those of the enemy.

That to open a second front, it will require many tens of millions of tons of shipping to move an army of 2,000,000.

"If we teach these things to our pupils, then they will know what total war is and why we must get back to plain simple things. Critical materials must go for killing purposes—this is not a picnic," Mr. Maverick declared.

Peak Attendance Marks First N.A.P.S.B.O. War Convention

(*Continued from page* 43)

and John W. Lewis on "The Long Range Effects of Emergency Adjustments."

Afternoons and evenings were devoted to sectional meetings on finance, insurance, operation, maintenance, purchasing and other details of nonacademic activities.

Edwin F. Nelson of Hartford, Conn., was elected president for 1943, succeeding H. S. Mitchell of Dearborn, Mich. Robert W. Shafer, Cincinnati, a director for the last three years, was chosen vice president and Walter McLain of Ottumwa, Iowa, was chosen to the vacancy on the board of directors.

The 1943 convention will be held in Chicago, and the tentative dates are October 10 to 13.

Harry Young, who started as clerk in the business offices of the Atlantic City schools in 1894 and rose to be secretary and business manager, was elected the first life member of the association at Monday morning's meeting.

The name of the association was shortened from the National Association of Public School Business Officials to the Association of School Business Officials.

What Janitors Must Do When Air Raid Warning First Reaches Building

In case of an air raid, what should the janitor do?

John W. Brown, business manager of the board of education, Elizabeth, N. J., gave convention delegates the following advice on this point:

Train janitors and firemen immediately upon the signal of an impending air raid to cover steam boiler fires with ashes to reduce the steam pressure, to pull out the main electric power and light switches, to stop ventilating fans, to shut off the main gas valve on the street side of the meter and to remove fire extinguishers of the soda-acid type from the walls in sections of the building where pupils are located, to prevent them from falling and spraying their contents on the children.

These duties will take only a short time. Then the janitor should proceed to the top or attic floor or roof to be on the lookout for incendiary bombs. More than one janitor should be assigned if the building has a wood frame roof with a false ceiling space of from 3 to 5 feet, for it would be difficult for one man to reach a bomb lodged between roof and ceiling.

Plate Specials Appeal

EVELYN RIETZE

DIETITIAN AND DIRECTOR OF FOODS
DEPARTMENT OF SCHOOL LUNCHES, LOUISVILLE, KY.

THE objectives of the school cafeteria should be to educate the child in proper food selection, to teach him to overcome certain dislikes and to provide him with adequate body-building elements through appetizing and appealing dishes. Armed with these aims we can outline menus that will go far in training the child in the right eating habits.

The best way to prevent the child from selecting wrong foods is not to tempt him. How easy it is to put a variety of cookies, candies and sandwiches on the serving table! Not only does this consume less time, but less effort is needed.

This year we are given a golden opportunity. Sugar is being rationed, which means that candies and soft drinks will not be manufactured in as large quantities as formerly.

In the Louisville cafeterias, especially in the elementary schools, only two varieties of candy have been offered, and these were served on alternate days. No candy was sold to any child who did not eat other food. Since these two kinds are not being made any more, our reports show an increase in the purchase of hot foods and fresh fruits. "Every cloud has a silver lining"—the elimination of candy from our tables seemed logical to the children. There was no ill-feeling or any attitude of discipline involved, and so they are spending their money more judiciously. This point is stressed because by treating the child courteously you will have a patron.

"Plate specials" have played an important role in providing the child with a lunch that is better planned than would have been his own selection. The appeal is made that by making this purchase he is getting a "special" or a "bargain." If he purchased each separate item, it would cost him from one to three

Menu Planning Aids for the School Cafeteria

See Plate Special	*Soup*	*Additional Vegetables*	*Salads*	*Desserts*
No. 1	Vegetable	Julienne Carrots Cabbage Slaw (hot)	Asparagus Cabbage Slaw* Pineapple and Banana	Apple Betty Fruit Cup Custard Pie
No. 2	Split Pea	Harvard Beets Spanish Noodles	Salmon Lettuce and Egg Grapefruit and Orange	Sliced Peaches Pears au Gratin and Sauce Mock Devil's Food Cake
No. 3	Lima Bean	Kale Mashed or Browned Potatoes	Coleslaw Macaroni Pear and Cottage Cheese	Queen Anne Cherries Jellied Fruit Graham Cracker Pudding
No. 4	Rice	Creole Green Beans Mashed Potatoes	Red Bean Salmon Stewed Prune	Baked Apples or Gelatin With Whipped Cream Bread Pudding, Raisin Sauce
No. 5	Vegetable	Buttered Cabbage Macaroni and Cheese	Spinach Tuna Pear Filled With Carrots and Peanut Butter	Sliced Peaches Rice Pudding Crumb Cake
No. 6	Chili	Spinach or Kale Buttered Rice and Cheese	Slaw Stuffed Egg Grapefruit and Apple	Stewed Prunes Bread Pudding With Caramel Sauce Fruit Roll
No. 7	Split Pea	Green Beans and Corn Macaroni and Cheese	Sliced Tomato Potato Pineapple-Apricot	Ambrosia Custard Mock Devil's Food Cake
No. 8	Lima Bean	Creamed Carrots Spaghetti and Tomatoes	Perfection Pineapple-Cottage Cheese Coleslaw*	Stewed Apricots Raspberry Argentine Graham Cracker Pudding
No. 9	Rice	Harvard Beets Dutch Apples	Cabbage and Pineapple Cottage Cheese Grapefruit, French Dressing	Stewed Prunes Ice Cream Crumb Cake
No. 10	Vegetable	Escalloped Tomatoes Mashed Potatoes	Wilted Lettuce* Salmon Prunes Stuffed With Peanut Butter	Pears au Gratin and Sauce Strawberry Gelatin, Whipped Cream Cup Cakes
No. 11	Split Pea	Buttered Asparagus Creole Lima Beans	Tomato With Slaw Tuna Grapefruit-Orange	Stewed Prunes and and Apricots* Ice Cream Gingerbread
No. 12	Vegetable	Harvard Beets Rice Balls	Coleslaw Stuffed Egg Banana-Nut	Stewed Rhubarb or Applesauce Baked Custard Peach or Strawberry Shortcake

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GOOD FOOD FOR PLEASED GUESTS

You need not pay a high price to serve good coffee—as you will learn when you have tried one of this famous Sexton trio. This family of blends includes one to suit every taste. If you want the very best, you will of course choose Sherman Blend Exquisite Coffee. Thousands of pleased patrons testify to the skill with which fifty-nine years of experience have been blended into this perfect coffee. No wonder its popularity increases year by year.

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MANY SCHOOLS ARE TAKING THESE STEPS

Making continuous use of machines during regular classroom hours; providing additional practice periods and short courses for special and post-graduate students.

•

Expanding the curriculum to include evenings and Saturdays, so that a greater number of students can be trained in machine work.

•

Using the most modern practice texts and other teaching materials; improving training procedures so that students may attain a maximum of skill in the shortest time.

•

Teaching the up-to-date office machine short-cuts and operating techniques that are used today in war industries and government offices.

•

Making a wider range of skills available to students by increasing the number of elective courses which provide machine training.

Is Your Office Machine Training Geared to Wartime Needs?

Today, in most industrial and governmental centers, the shortage of trained office machine operators is so acute that employers are being forced to accept applicants whose knowledge of office machine operation is not sufficient to produce the best results.

America's schools can aid government and industry, not only by urging more students to take machine training, but by speeding up training so that students become competent operators in a shorter time.

In studying how your school can best meet this critical demand, let Burroughs help you. The Burroughs Educational Division offers practical assistance in getting the maximum classroom use out of your present machine equipment; can advise you on the newest operating techniques, practice programs, texts and materials. Call your local Burroughs office, or write to—

BURROUGHS ADDING MACHINE COMPANY
DETROIT, MICHIGAN

Burroughs

See Plate Special	*Soup*	*Additional Vegetables*	*Salads*	*Desserts*
No. 13	Rice	Creamed Peas Baked Noodles	Sliced Tomato Cottage Cheese Peach Filled With Celery and Nuts	Ambrosia Prune Whip Mock Devil's Food Cake
No. 14	Navy Bean	Kale or Spinach Browned Potatoes	Tomato, French Dressing Jellied Vegetable Macaroni	Plums (canned) Fruit Tapioca Cup Cakes
No. 15	Noodle	Corn and Tomatoes Mashed Potatoes	Spinach Stuffed Egg Carrot-Raisin	Sliced Peaches Chocolate Rice Pudding Pineapple Upside-Down Cake
No. 16	Barley	Buttered Beets Browned Potatoes	Tomato Aspic With Cottage Cheese Tuna Grapefruit-Prune	Royal Anne Cherries Ambrosia Taffy Apple Pudding
No. 17	Vegetable	Buttered or Creole Green Beans Creamed Asparagus	Hot Potato* Salmon Pear-Orange	Lime Delight Bread Pudding, Sauce Stewed Apples
No. 18	Lima Bean	Buttered Peas Candied Sweet Potatoes	Jellied Vegetable Macaroni Pineapple-Apricot	Cinnamon Apple Slices Ice Cream Cup Cakes
No. 19	Vegetable	Buttered Peas and Carrots Macaroni and Cheese	Beet-Cucumber Tuna Banana-Nut	Cubed Pineapple Lime Gelatin, Whipped Cream Butterscotch Crumb Crust Pie
No. 20	Lima Bean	Corn Pudding Buttered, Parsley Potatoes	Coleslaw Tomato Aspic With Vegetables Grapefruit-Orange	Fruit Cup Prune Whip Gingerbread
No. 21	Vegetable	Creamed Peas Mashed Potatoes	Spinach Macaroni Waldorf	Sliced Bananas Jellied Fruit Crumb Cake
No. 22	Barley	Kale or Spinach Escalloped Tomatoes and Celery	Red Bean Stuffed Egg Peach Filled With Celery and Nuts	Pears Congealed in Lime Gelatin Custard Cup Cakes
No. 23	Vegetable	Succotash Hot Cabbage Slaw	Spinach or Slaw Salmon Pineapple-Cheese	Cinnamon Apple Slices Rice Pudding Sponge Cakes
No. 24	Lima Bean	Meat: Baked Ham or Roast Pork	Carrot and Raisin* Tuna Orange-Grapefruit	Applesauce Rice Pudding, Caramel Sauce Ice Cream
No. 25	Vegetable	Wieners or Salmon Patties	Cabbage Slaw* Stuffed Egg Apricot-Cheese	Fruit Cup Lime Delight Gingerbread

* Indicates that if a salad or simple dessert is served on "plate special" it may be duplicated under salads or desserts.

cents additional. In the eyes of the child this seemingly small saving is worth consideration.

In Louisville the lunch department is centralized. This system permits more uniform or standardized menus, recipes and operations. In accomplishing this, the "plate specials" are planned by the dietitian and director of foods. One hundred eighty of these have been formulated around the kind of meat used. They are numerically arranged to make it easier for the manager to enumerate her choice.

A "plate special" is served daily in every high school. The manager in the individual school may use her own discretion for her daily choice. With 180 to choose from she has little difficulty in having a variety.

Twenty-five of the "specials" have been selected to illustrate how the menus of every school are planned. Bread, cornstick, a homemade roll or a muffin is on every plate except those on which sandwiches are served.

Roast Beef:

1. Mashed potatoes, gravy, buttered or creamed peas
2. Mashed potatoes, gravy, buttered green beans and carrots
3. Rice balls, tomatoes and okra
4. Macaroni and cheese, kale or spinach

Beef Croquettes or Patties:

5. Creamed pea sauce, stuffed baked potato, tomato slice
6. Escalloped potatoes, Harvard beets

Beef Stew:

7. Kale or spinach timbale, cinnamon apple slice
8. Corn pudding, coleslaw

Meat Loaf or Hamburger:

9. Spanish noodles, carrot and raisin salad
10. Baked beans, "wilted lettuce" or spinach or kale
11. Macaroni and cheese, stewed prunes and apricots

Hot Ham:

12. Sweet potato-apple scallop, buttered green beans
13. Raisin sauce, stuffed baked potato, shoestring carrot strips (raw)
14. Spaghetti and tomato sauce, buttered peas

Roast Pork:

15. Bread stuffing, buttered green beans, apple-celery salad
16. Baked beans, buttered spinach, cornstick (The above plates may be served once a month only.)

Wiener or "Hot Dog":

17. Hot potato salad, cottage cheese
18. Mashed potatoes, sauerkraut, baked apple (½)
19. Creole rice or hominy, buttered green beans (These are served every other week only.)

Roast Veal:

20. Dressing, creamed peas and carrots, stuffed celery
21. Rice balls, shoestring sweet-sour beets (Served once a month only.)

Salmon Loaf Croquettes or Other Fish:

22. Macaroni mousse, mixed vegetable salad
23. Stuffed baked potato with cheese, glazed carrots

Vegetable Plates:

24. Macaroni and cheese, carrot and raisin salad, spinach or kale, applesauce
25. Baked beans, buttered beets, hot slaw, stewed prunes

In order to facilitate more complete planning, the accompanying suggested aids are also numerically arranged to coincide with the "plate special." For example, if "Plate Special No. 1" is selected for Monday, then No. 1 on the menu planning aids should be used on Monday.

The Louisville managers have found this method most helpful to them since it requires less planning on their part and it relieves them of the burden of being too cautious as to the costs of certain foods. If the prices of certain foods change they are notified that it would be wiser to discontinue serving certain "specials" for the time being. When the prices are again within our price range these "specials" reappear.

It is gratifying to know that the government is supporting us in this commendable objective. In consequence, our task should be far easier and our accomplishments much greater.

Experiment in Nutrition

SHIRLEY EHRENBERG
STUDENT, HUNTER COLLEGE, NEW YORK

EARLY last spring a small group of senior home economics students of Hunter College of the City of New York felt that the opportune time had come to stress the value of good nutrition. At their first meeting a group of 20 was organized into what was known as "the defense committee of nutrition," which, in turn, was broken up into a menu committee, publicity committee, radio committee and finance committee. The purpose was to bring the value of good nutrition to the student through the use of her own school cafeteria.

The menu committee took the menus planned by the dietitian and made out suitable low cost combinations of foods which were adequate to give one third of the daily nutritive requirements of an average college student. Whole wheat bread and butter were always on the menu, as was milk.

The publicity committee worked on the bulletin board outside the cafeteria. Here, posters, reference material and charts were posted. It was the duty of this group to make the bulletin board as attractive, interesting and educational as possible. The committee got little recognition. Girls walked by the bulletin board, walked into the cafeteria and chose their food exactly as they had been doing in the past. The candy counter and soda fountain were frequented much during the day. The committee, knowing the needs of the college student and the habits of its classmates, felt that they should be educated as to their dietary necessities.

It was finally decided to hold a nutrition week in which the help of all departments would be enlisted. Posters placed on each department bulletin board applied not only to nutrition but also to the department. For example, in the medical office the slogan was "Give Your Diet First Aid."

The next step was the completion of a nutrition score card. The card was scored according to the needs of the student. A rating of five points was given for having one cup of coffee or tea, or less, a day. It was felt that the average student did have at least one cup of coffee or tea a day, and the purpose was to limit it to that amount. Points were given for taking sweets only at the end of a meal, having the daily nutritive requirements, such as one pint of milk, one green and one yellow vegetable, a meat or meat substitute, one egg and so on down the line.

The next problem was to find informative literature. "Food Joins the Colors," a pamphlet printed by the New York City health department, and illustrative posters solved this problem. Wax models of common foods were also borrowed from the same source.

The cafeteria manager graciously consented to furnish space in the cafeteria for the exhibit and to supply all the food needed for the display. Three tables were set up in a U shape. At one end of the table were two big posters—one called "Your Diet Daily Routine" and the other, "Your Diet Daily Diversion." The first listed all the foods that the college student should eat in one day. Underneath the posters were models of the food with explanatory cards telling the nutritive value of each.

The second poster indicated the food a student might have, provided she had already had her daily needs. Among the items displayed were coca-cola, candy, ice cream and cookies. On the second table three meals were exhibited, consisting of breakfast, lunch and dinner—each adequate in every respect. The meals averaged from 2200 to 2400 calories. All the food was taken directly from the steam tables, cold counters, dessert and beverage counter of the cafeteria. The third table contained literature, free samples of the score card and pamphlets, which were distributed to all who desired them. Three home economics students were on duty every hour of the day to answer questions.

As a result of the exhibit many requests for reference material were received and numerous questions were asked about calories, vitamins and nutrients. The girls were surprised to discover that one portion of chocolate cake contained about 400 calories and that they could profitably spend that amount on half their dinner meal. So successful was the exhibit, in fact, that the head of the home economics department asked that a repeat exhibit be put on for the evening session students. Here, again, the interest was encouraging.

Plans for the present year are numerous. One is to put on a radio program for the consumer in conjunction with the speech and dramatics department. Such close collaboration between the home economics department and other departments in the school is highly desirable.

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How to Organize a Working Library of MULTI-SENSORY AIDS

E. WINIFRED CRAWFORD
DIRECTOR OF VISUAL EDUCATION
MONTCLAIR, N. J.

VISUAL education as an aspect of the total field of education is well established in our progressive school systems. This work is usually in charge of a director whose duties include counseling with teachers and pupils; building the department budget; administering the library of aids variously called visual education, audio-visual or multi-sensory, and carrying on research.

A multi-sensory aids library is an organized assemblage of aids that includes materials, instruments, equipment and resources. The use of these aids helps accomplish the purpose of education by providing sense perceptions that give information and develop attitudes.

Such a library may be organized for an individual school and housed in that school or it may be organized for a city, county or state system or for a larger unit and housed in a central depository. An individual school library has the advantage of being conveniently located for the teachers of that school. A central library makes available to the teachers of each school in its area more material and of a wider scope than each school could individually own. It makes possible a selection and evaluation of aids by teachers in a number of schools and means a balanced and well-maintained library because a director of visual education knows the teachers' needs and has knowledge of and thought for all the aids.

An efficient circulation and delivery system should minimize as far as possible delays in delivery of materials and should care for the unanticipated needs of teachers. Although emphasis is herein placed on the organization of a centrally located multi-sensory aids library that serves the schools of a community or larger area, nevertheless the principles and practices established will be found applicable to a library in an individual school. This study considers (1) principles for building the library, (2) classifying and cataloging the aids, (3) preparation of the aids for use and (4) circulation and delivery service.

The multi-sensory aids included in the library are of four kinds: (1) the activity group, which gives opportunity for thinking based on direct experience; (2) the pictorial group, which leads to thinking as a result of vicarious experiences; (3) the graphic group, which makes possible thinking from abstract and other forms of representation, and (4) the audio group, which contributes certain values derived from sound.

A collection of illustrative materials is not an educational library. To make and keep a library of multi-sensory aids at maximum efficiency it should be built upon principles that are studied and evaluated in the light of the purpose of education of the school system. Certain general principles are stated below.

The library provides and holds to the greatest extent possible a balance of multi-sensory aids and equipment for all phases of the curriculum.

The selection of the aids is the responsibility of the director of visual education or of a visual education committee. This selection should be made after consultation with principals, teachers and special service persons.

All aids that are purchased are previewed and evaluated by the director and the persons to whose teaching fields the materials are relevant.

The aids included in the library have permanent or relatively permanent value; those having only ephemeral interest are left for teachers to obtain elsewhere.

Aids are evaluated from the standpoints of accuracy and relevancy, interest and attractiveness, variety and richness, usability and durability and are kept as up to date as possible.

Aids are varied and rich enough to provide for the needs, interests and aspirations of all groups of teachers and pupils.

Primary source materials are acquired whenever possible and all aids that require it are subjected to internal and external criticism.

Whenever circulation records indicate a need for more material in a certain field, the material in that field is duplicated or additional material obtained.

Gifts and free materials are evaluated according to the same standards as materials that are purchased.

Source materials and equipment are obtained for experimentation or research in any curricular field.

Mechanical equipment and electrical apparatus are selected from the standpoints of suitability and service, precision and durability and convenience and safety in operation.

Materials and equipment are kept in proper condition for use or are withdrawn from service.

The organization of the library provides for expansion; its administration is efficient. Suggestions for changes in library service are always considered.

The services that other public and private institutions in the city or area covered by the library are rendering the schools are recognized so that unnecessary overlapping is avoided.

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Efficient library practice has shown that the best method of making the resources of any library available to its patrons is to have those resources well classified and cataloged.

Classification places the multi-sensory aids in a topical arrangement; cataloging arranges the aids according to a usable plan. According to a survey I made in 1931 of the cataloging systems of visual education libraries in city and state systems and in universities in the United States, only five libraries among 51 answering the questionnaire used either a standardized classification system or a modification of such a system.

Since that time the Dewey decimal classification has been adopted by some visual education libraries. The fact that the Educational Film Catalog has adopted this system has influenced multi-sensory aids libraries to do it also.

The Dewey classification is not an ideal system for a multi-sensory aids library because the system was originated to classify books and, therefore, the author's initial is part of the catalog number. A multi-sensory aids library includes many types of articles and there are no authors. In a number of the most important sections in the system for a visual aids library there is little numerical space available for expansion without causing the numbers to become too long for convenient use. The Brussels adaptation of the Dewey decimal system includes symbols that help in classifying multi-sensory aids. Nevertheless, the Dewey system has the advantage of being well known because it is used in most public and school libraries.

Classification Principles Set Up

This statement of classification principles for a library of multi-sensory aids is the result of a study of rules for classifying books and of knowledge gained from experience in classifying various types of multi-sensory aids.

An aid from the library service standpoint is that which is circulated as a unit, which may be made up on one or more articles.

Aids are classified under the subject headings where they will be the most useful. They are classified under the first subject heading possible in order to keep the classification numbers short.

Aids that deal with more than one subject are classified under the more important subject or a general heading that includes all. Those that require other subject headings than those given in the classification system have proper headings made for them. All aids, regardless of kind, that deal with a specific subject are given the same classification number.

Each aid in the library has an individual number consisting of the classification number, a letter prefix and a suffix symbol when necessary. A letter prefixed to the classification number indicates the type of aid. Explanatory suffix symbols are used to indicate other designated information.

All decisions regarding classification are recorded.

Use of Letter Prefixes

So that the type of aid can be easily recognized from the classification number and that the aids can be conveniently housed the following letter prefixes are used: A—Magazine articles and pamphlets; B—Books; C—Charts, diagrams and graphs; D—Film slides; E—Exhibits, specimens, models; F—Framed pictures; G—Stereographs; I—Flags; J—Dolls, puppets, marionettes and figurines; L—Live specimens; M—Motion pictures, silent; Md—Motion pictures, sound; O—Posters; P—Prints, photographs, postcards, cartoons, etchings; R—Radio; S—Stereopticon slides, regular; Sm—Stereopticon slides, miniature; T—Television; U—Units of work and outlines; V—Victrola (phonograph) records and disk recordings; W—Maps and globes, and X—Equipment: projectors, instruments, screens, cameras, tripods, lights, phonographs, recorders, microphones and supplies for making aids.

A library obviously need use only the prefixes that correspond to the kinds of aids it circulates or it may designate other letters for additional aids.

Suffix symbols and numerals may be added to the classification number to indicate additional information so that each aid in the library has an individual number; this is essential for aids that are housed and circulated. To distinguish each aid in a series a dash and the numeral may be added as: —1, —2 or —3. To give each copy of the same aid an individual distinction, the number sign and a numeral may be added as: #1, #2 or #3. A capital L before the prefix initial of the catalog number indicates that the specimen is alive. Various Brussels symbols may also be used.

Library catalogs record essential information about each aid and make the resources of the library readily available to the teachers. In most systems it is not necessary to keep an accretion list because order blanks and gift records serve the purpose. A catalog card for each aid records the catalog number; the name, date of acquisition and number of copies in the library; the name and page of the teachers' catalogs or the courses of study on which the aid is listed, and any other information a director may desire. This card catalog, although not a true shelf list, may serve that purpose. The catalog is made on regulation 3 by 5 inch cards and filed in library catalog drawers.

Multi-sensory aids catalogs make the resources of the library available to the teachers. These teacher-catalogs may be any number to correspond to the subject matter included in the curriculum. By this is meant the subject matter that progressive educational procedures need to help fulfill the purpose of education, *not* subject matter to be taught as such. Each catalog gives the number, name, brief description or annotation and other pertinent data about each aid.

Organizing Teachers' Catalogs

The amount of detailed organization in the teachers' catalogs depends upon the size of the school system and the size and scope of the library. The catalogs are stencil duplicated so that they can be easily revised. An expanding page number scheme makes it easy for new sheets to be inserted in proper place. A complete set of these multi-sensory library teacher-catalogs should be kept in the school library or in the offices of schools that have no library. Each teacher should have copies of the catalogs he needs for his work. The aids are also cross-cataloged in the courses of study.

This article will be concluded in the December issue.

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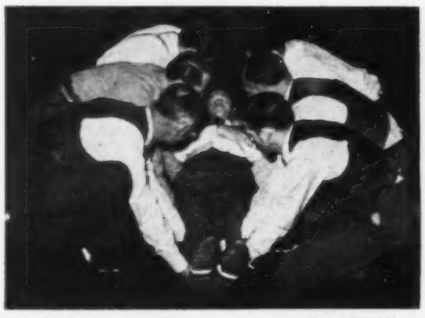

The American people learn teamwork in Civilian Defense and similar activities. Our "Emergency First Aid" film series and other home front films are helpful and inspiring to citizen students of all ages.

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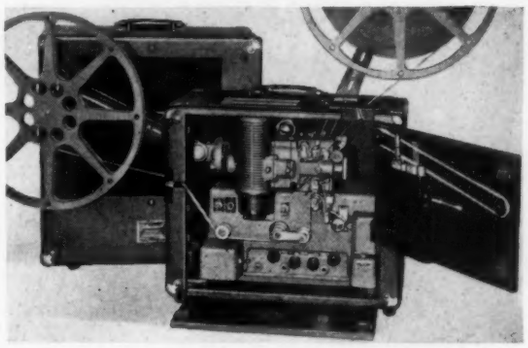

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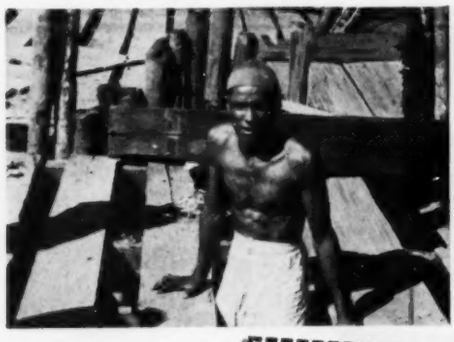

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Chalk Dust

Thanksgiving Theme

ONCE upon a time, my beloved, and not so very long ago at that, the schools of America seemed to be seized with the heebie-jeebies of uncertainty. Great cry and hue arose that the true path of salvation for the young lay only in the performance of certain esoteric rites patented on progressive principles. Medicine men arose to argue the merits of the child-dominated school, while the more conservative chiefs put their staffs of researchers to the problem of discovering the proper readiness age for sandbox activities.

In common with all the rest of the country, the schools dreamed of grandeurs to come but, while waiting for Utopia, they wishy-washed and shilly-shallied. School administrators jumped on their hobbyhorses and rode off in all directions at once. Progressive classroom teachers, when not engaged in their struggle for equal rights on the school buses, projected bigger and better model post offices. Puzzled parents looked for red herring in the troubled curriculums.

In that confused era, although the world was afire, the runners-of-the-schools were wont to say: "There are now no problems for the school has solved them all."

But there were problems, nevertheless and notwithstanding. There were terrible problems of what about the equality of race, color and creed; of tolerance *versus* intolerance; of vast wealth and still vaster poverty; of too much to eat and not enough to eat; of the right and the wrong side of the track, and of all the hundreds of puzzlements which keep a democracy from its birthright.

But, by a sardonic twist of events, the stark problem of survival in a world of no problems brought all the little problems into clearer perspective. At long last, the schools of democracy came to know that their main business was what it has always been, to try to examine, understand and teach democracy.

So the American schools are no longer frustrated, no longer torn with doubt and indecision, no longer living cloudily from day to day realizing that they have no living faith to enlist the youth they would serve. The schools have rediscovered the faith that is their heritage. They are revitalizing that faith come hell or high water.

For all of which, let us be humbly thankful.

● ●

To a Young School Administrator

O, he floats through the air with the greatest of ease,
His toga and mortarboard flop in the breeze.
Not a soul in the world would he wish to displease
As he swirls through the clamorous fray.

His upward career brings forth plaudit and shout,
He is headed for fortune and fame without doubt—
Though never quite sure what the whole thing's about
As he swings on his dizzying way.

September, he's up; in the spring he is down;
In the autumn a hero; in June just a clown.
He bows to the cheers and gains local renown
Plus a few minor cracks on the chin.

The moral, for young superintendents to heed,
It isn't the distance, it isn't the speed.
The ups and the downs are no matter, indeed,
If you can just take it—and grin!

● ●

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Yes, sir, tomorrow your jolly old Uncle Dopie will tell his dear little boy and girl listeners the story of how Billikens, the little lug, socked his dear old grandmother in the puss and got away with it, ha, ha, the cunning little buster. Listen in for Uncle Dopie. I'll be chewin ya.

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3. Cutting a Taper with the Compound Rest and with the Taper Attachment
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5. Cutting an External National Fine Thread
6. Turning a Taper with the Tailstock Set Over
7. Cutting an External Acme Thread

5 ON THE MILLING MACHINE

1. The Milling Machine
2. Cutting Keyways
3. Straddle and Surface Milling to Close Tolerances
4. Straddle Milling
5. Plain Indexing and Cutting a Spur Gear

3 ON THE VERTICAL BORING MILL

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2. Rough Facing and Boring and Turning a Shoulder on a Vertical Turret Lathe
3. Facing, Turning, Boring, Grooving, Chamfering on a Vertical Turret Lathe Using 2 Heads

2 ON THE RADIAL DRILL

1. Drilling and Tapping a Cast Steel Valve Body
2. Drilling and Spot Facing a Cast Iron Valve Body

1 ON THE SENSITIVE DRILL

1. Drilling a Hole in a Pin

2 ON THE VERTICAL DRILL

1. Locating Holes, Drilling and Tapping in Cast Iron
2. Countersinking, Counterboring, and Spot Facing

8 ON BENCH WORK

1. Centering Small Stock
2. Laying Out Small Castings
3. Fundamentals of Filing
4. Threading with the Use of Taps and Dies
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7. Reaming with Straight Hand Reamers
8. Reaming with Taper Hand Reamers

3 ON THE SHAPER

1. Cutting a Keyway on End of a Finished Shaft
2. Machining a Rectangular Cast Iron Block
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2 ON SINGLE POINT CUTTING TOOLS

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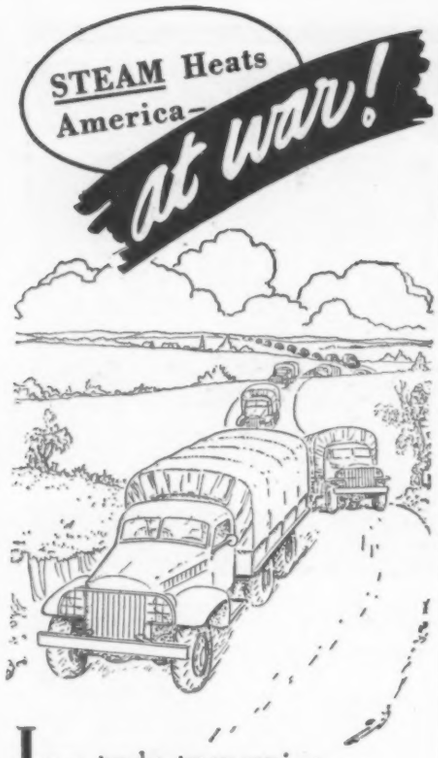

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News in Review

Schoolhouse Construction Council

Much emphasis was placed on war conditions as they were affecting the school plant at the twentieth convention of the National Council on Schoolhouse Construction at Cleveland, October 8-10. With the realization that permanent school building was at an end until after the war and that even essential defense area building would be decidedly temporary in character, the chief attention was devoted to operation and maintenance and safety problems.

Supt. Charles H. Lake, Cleveland public schools, discussed at length various problems in air raid protection and described the Cleveland plan. A. M. Leissa of the War Production Board painted a not too pleasant picture concerning the effect of priorities on both construction and maintenance of schools. J. L. Taylor, director, school plant division, Arkansas State Department of Education, discussed a number of essential adjustments to be made in maintenance, operation and utilization. Vocational housing was considered by S. P. Clemons, director of the division of schoolhouse planning, South Carolina, and the newest developments in schoolhouse construction in Cleveland were discussed by G. E. Irons, commissioner, schoolhousing and boundaries, Cleveland board of education.

During a panel discussion on Monday afternoon the question was raised of the proposed recommendation of the U. S. Office of Education concerning the subordination, delimitation and possible neglect of the school plant activity in state departments of public instruction. The issues raised were that it was not the responsibility of the Office of Education to recommend specific organization; that the proposed creation of two major divisions—instruction and administration—was theoretically and practically unsound since administration is the activity of execution and has no purpose apart from function, and that such organization would eventually result in grave neglect of the total plant activity. One of the speakers decried recent tendencies within the Office of Education that will inevitably result in such neglect. A strong resolution was later adopted protesting against such recommendation.

The contribution of Alice Barrows to the entire problem of schoolhouse planning was acknowledged in a graceful resolution and deep regret was expressed over her resignation.

Relatively few changes were made in the 1941 standards, with the exception of lighting. Here, the council departed from its customary conservatism and recommended higher lighting standards than the 1936 standards which had been considered official up to the present.

Thomas J. Higgins, Chicago public schools, was elected president and S. P. Clemons, South Carolina State Department of Education, was named vice president. After eight years of unusually capable service Ray L. Hamon relinquished the secretary-treasureship to J. L. Graham, state supervisor of school building service, Florida. G. E. Irons succeeded Charles Bursch, chief of the California division of schoolhouse planning, as a member of the executive committee. It was decided to hold the 1943 convention, if the war did not interfere, in Chicago.

MEETINGS

A.A.S.A. Convention Shortened

The dates of the American Association of School Administrators' convention in St. Louis next February have been changed to February 26 through March 2. The change was made to conform with the Office of Defense Transportation's policy of discouraging week-end travel.

The program outlined for the convention, based on the theme, "The Rôle of the Nation's Schools in Winning the War and Earning the Peace," will be confined to subjects that are of vital importance to school officials. Sightseeing trips, social functions and other activities that are not closely connected with the war effort, it was announced, will not be in order at the convention.

Building Council Meeting Canceled

At a special meeting of the executive committee of the National Advisory Council on School Building Problems held in Cleveland on October 7, decision was made to accede to the request of the federal government and cancel the 1943 convention planned for St. Louis in February.

The resignation of Alice Barrows as secretary was accepted with regret and Raymond V. Long of the Virginia State Department of Education was elected executive secretary, a new office. Miss Barrows was honored by being made a life member of the council whose creation was her inspiration and whose success was largely due to her untiring efforts.

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Junior College Meeting Canceled

Instead of one national meeting, the American Association of Junior Colleges will hold six regional meetings in 1943, it was announced by the executive committee recently. This decision was taken in response to federal government requests that conventions be curtailed as much as possible to lessen transportation problems.

The meetings will be held at points convenient to junior college administrators in the areas covered by the six regional junior college organizations this fall and next spring. According to the readjusted plans, the fall meetings will be as follows: Junior College Council of the Middle States, New York City, November 28; Southern Association of Junior Colleges, Memphis, Tenn., December 1, and New England Junior College Council, Boston, December 5. The spring meetings will comprise the North Central Council of Junior Colleges, Chicago; Northwest Association of Junior Colleges, Spokane, Wash., and California Junior College Federation, in or near Los Angeles. The dates of these meetings will be announced later.

Dr. Walter C. Eells, executive secretary of the national association, will attend all six sessions in order to unify the discussions and activities of the various groups.

WAR ACTIVITIES

High School Victory Corps

High school boys and girls all over the country will have an opportunity to participate in the war effort with the inauguration of the High School Victory Corps, it was announced by Paul V. McNutt, Federal Security Administrator. The two aims that have been set forth for the corps are: first, "immediate, accelerated and special training of youths for that war service they will perform after leaving school," and, second, "active participation of youths while still in school in the community's war effort."

Every high school pupil will be eligible to join the general membership of the victory corps and those who are within about two years of completing high school are eligible for admission to any one of five special service divisions. These are: (1) land service, calling for preinduction training for all branches of the Army except the air corps; (2) air service; (3) sea service, providing training for all branches of the Navy except the air; (4) production service, preparing for war industries and agriculture, and (5) community service, preparing for medical, nursing, teaching and numerous other professions and civic services.

A "High School Victory Corps Manual" setting forth purposes, objectives and recommended methods of organization is being sent to all superintendents of schools and high school principals by the U. S. Office of Education.

Pupils to Christen Ships

School children will name and christen 49 Liberty ships, it has been announced by the U. S. Office of Education and the conservation division of the War Production Board. In connection with the current school salvage campaign, pupils were invited to send names for the ships to a state committee, which will select three names from the entire list and send them on to Dr. John W. Studebaker, U. S. Commissioner of Education, for clearance with the Maritime Commission. Each state and the District of Columbia will name one ship. The names, which must be submitted to the chief school officer of each state by October 31, are limited to those of distinguished former (not now living) citizens of each state. The ships will be christened by representative pupils from the three schools in each state that have collected the largest weight of scrap per pupil.

Homecoming Features Scrap Parade

More than 90,000 pounds of scrap "floated" in the annual homecoming parade of Morningside College, Sioux City, Iowa, on October 10. The various college organizations displayed their collections in every sort of vehicle, ranging from hand-drawn wagons to huge trucks. College men enlisted in the various military reserves marched in the parade with uniformed officers of their branches or rode in Army "jeeps," while planes from the college pilot training field flew overhead.

Correlating Schools and War

Modifications of the school program must be made to provide opportunities for curricular, extracurricular, health service and community service programs to prepare pupils for the demands of the armed forces, industry and community service. This proposal was set forth in a statement drawn up by a committee appointed at a joint meeting of chief state school officers and executive secretaries of teachers' associations to summarize the urgency of more closely correlating the work of the schools and the war effort.

Among the adjustments that should be made immediately the committee listed the following:

Curricular programs to provide for courses in mathematics, industrial arts, auto-mechanics, physics, homemaking, health, social studies, preflight training and instruction in the global concept of the present war and postwar living.

Extracurricular programs to provide for school lunches, giving special attention to proper nutrition; assembly programs stressing the pupils' place in the war; the contributions of such organizations as 4-H clubs, girl and boy scouts, junior Red Cross and Future Farmers of America.

Health services to provide for physical fitness programs and the correction of physical deficiencies.

Community service programs to promote salvage drives; to cooperate with other community agencies in lessening juvenile delinquency, and to give assistance and understanding in consumer buying.

Guidance services to provide information as to all opportunities and demands for the services of youths in the war effort and to make an inventory of the abilities, aptitudes and present training of youths to enable them to gauge their best field of service.

Yale Students at War

Should New Haven, Conn., be subjected to air attack, Yale University students are prepared to man vital posts to protect their city. Approximately 600 of them have enrolled in 14 branches of the air raid precautions service and are learning to be fire fighters, bomb reconnaissance experts, auxiliary police, airplane spotters and air raid wardens.

The most popular branch of the service is the Coast Guard auxiliary in which 120 students have enrolled. These students stand four-hour watches on small crafts guarding New Haven harbor. Another division of this group, the bomb school, will be opened shortly and will be taught by New Haven officials trained by the Army.

ADMINISTRATION

Take Religious Census

Under an order issued September 18 by Berten B. Bean, associate superintendent, Buffalo, N. Y., and approved by Supt. Robert T. Bapst, the teachers in the Buffalo public schools have been requested to conduct a survey of the religious affiliation of all pupils in membership, regardless of whether they are participating in released time classes. A special report is required for all children whose religious affiliation is unknown. With respect to coverage, Mr. Bean says: "It is highly important that the name of every single pupil be on one or the other of these lists."

Teachers are also expected to check the attendance reports of pupils in religious centers on released time and to see "that the absentees are properly reprimanded." Teachers must deter-

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mine the reason for absence and return the absentee sheet with these reasons to the religious center. A peculiar requirement of the new regulations is the fact that a parent who desires to withdraw his child from released time classes cannot do so by "any written request but only at the personal request of the parent to the principal."

Conserve Textbooks in New York

In an effort to conserve materials and supplies and save money, the New York City board of education recently announced its intention of suspending the purchase of textbooks and making a coordinated effort to redistribute textbooks now in the schools that are in excess of current needs. Accordingly, instructions have been issued that no textbooks are to be requisitioned for the term beginning February 1, 1943. School principals are to submit to their division superintendents inventories of usable books in their schools that can be made available for use elsewhere, and also lists of worn-out books, which will be set aside for collection by the city's bureau of supplies.

Requisitions for textbooks that are necessary for new courses of study or for supplementary materials in connection with changes in the curriculum should be submitted for approval to the superintendent in charge of the division, together with a letter indicating the urgency of the request.

Staggered Hours Program

Public and parochial schools in cities of New Jersey have been instructed to adopt opening and closing hours in conformance with a schedule drawn up by the War Transportation Committee to stagger hours of workers and pupils to relieve congested transportation facilities. In general, the school hours ordered were one hour later than those that had previously been in effect.

Pupils all over the country were appealed to recently by the Office of Defense Transportation to go home promptly after school so that they would not be riding buses or street cars at the same time as homeward-bound war workers.

D. C. Votes Down Released Time

A request from a joint meeting of Jewish rabbis and Protestant and Roman Catholic clergy for an opportunity to conduct a program of week day religious education of public school pupils on released time has been denied by the District of Columbia board of education. Although agreeing in general with the committee's arguments for week day religious instruction, Supt. Frank Ballou, in his report to the board, opposed the use of school time for the program. The release of pupils one hour per week within public school hours would tend to disrupt class procedures and the advancement of pupils throughout the school system, Doctor Ballou contended.

RADIO

Teachers' Meeting by Radio

An estimated 80,000 teachers in group meetings listened to the first National Teachers' Meeting by Radio, sponsored by the Educational Policies Commission on September 28 in cooperation with the National Broadcasting Company. A feature of the radio program was a pick-up from the public schools of Pasadena, Calif., in which educational war-time activities were described. Participants in the broadcast included George S. Counts, George D. Strayer, Teachers' College, Columbia University; Alexander J. Stoddard, chairman of the Educational Policies Commission, and William G. Carr, secretary. Because of the success of the broadcast, a second program will be sponsored by the commission in December.

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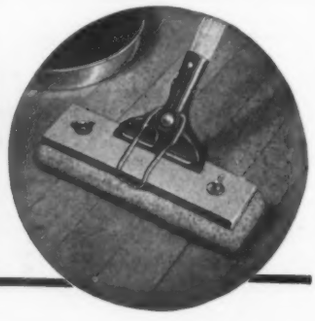

Air School to Be News Channel

The School of the Air of the Americas is to be an official news channel for the Office of War Information, it has been announced by Lyman Bryson, director of education of the Columbia Broadcasting System, who has recently accepted the part-time post as educational adviser to the O.W.I. The broadcasts will be used to convey news, information and instructions for civilian activities to the pupils, teachers and parents of America, Mr. Bryson stated.

All programs announced in the "School of the Air" teachers' manual are subject to change whenever official information must be conveyed. However, Mr. Bryson pointed out, "We believe that the changes to be made to meet war emergencies will not interfere with our basic educational purposes nor with the plans of teachers to make the greatest possible use of the broadcasts."

COURT DECISIONS

Flag Salute Not Mandatory

Declaring that the compulsory flag salute is violative of the fourteenth amendment of the Constitution, a three-judge federal court in West Virginia recently ruled that school pupils who are members of the religious sect, Jehovah's Witnesses, need not salute the flag. In the opinion handed down, the court pointed out that although in another similar case the United States Supreme Court had ruled that the flag salute was mandatory, four members of the court had later stated that they thought the decision unsound.

W. W. Trent, West Virginia school superintendent, stated that even though pupils who belong to the sect need not salute, they would be expected to show respect for the flag by standing.

TRANSPORTATION

Girl Drivers Set Safety Records

Women are safe drivers, in spite of all the ancient jokes to the contrary, the State of North Carolina has proved to its own and the taxpayers' satisfaction. North Carolina's great fleet of school buses is operating at a new peak of efficiency this year because buses driven by girls require 40 per cent less money for repairs and 20 per cent less fuel than are required on identical routes by men or boy drivers. With the war luring men and boys into industry the number of women drivers, most of whom are high school girls, has increased from fewer than 100 to 800 in 1942. Thus far, the girl drivers have not been involved

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This is the story of the G-E Research Laboratory (popularly known as "The House of Magic") and the men who developed X ray, the incandescent lamp, and the radio tube. You may get a copy of the booklet, one of a series of educational pamphlets available, by writing the General Electric Company, Schenectady, N.Y. Ask for Publication GEB-113.

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in a single accident; they lead the boys in efficient driving, and they have proved dependable in meeting schedules.

VISUAL EDUCATION

Iowa to Exhibit War Films

A series of 16 mm. sound motion pictures, produced by the Office of War Information and the Coordinator of Inter-American Affairs, will be shown in schools throughout Iowa that have the necessary projection equipment. The program, which is scheduled to start in November, will include pictures from various branches of the government, each program being approximately thirty minutes in length. According to present plans, Iowa will be divided into 12 districts and the same program will be started within each district at the same time.

Schools that own 16 mm. sound equipment have been requested to assist in the program by stating their willingness to participate in the program and informing the Office of War Information of the dates on which the films would fit into the school program. They have also been urged to arrange for showings of the films to adult groups in the community.

The program will be operated under the direction of the visual instruction service of Iowa State College, Ames, Iowa, and the bureau of visual instruction, extension division, State University of Iowa.

PUBLICATIONS

Magazine for War-Time Needs

World Week, a new news magazine for high school pupils, made its first appearance in September. The publication is designed to meet the special war-time needs of history and social studies teachers in grades 8, 9 and 10. Special features of the magazine are "World News in the Light of History"; "Inside Washington"; "Pan Americana"; a series on "American Youth and the Air Age," and another series on "Geography of Global War."

Kenneth M. Gould, editor-in-chief of Scholastic Publications, is head of the editorial staff, with Jack K. Lippert, managing editor, and Eric Berger, editor in charge of *World Week*.

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Coming Meetings

Oct. 28-30—Nebraska State Teachers' Association, Lincoln, Omaha, Norfolk, North Platte, McCook and Chadron.
Oct. 29-30—Maine State Teachers' Association, DeWitt Hotel, Lewiston.
Oct. 29-31—Minnesota Education Association.
Oct. 30—Connecticut State Teachers' Association, Hartford, New Haven and Bridgeport.
Nov. 4-5—Council on Education, Arkansas Education Association, Little Rock.
Nov. 6-7—Arizona Delegate Assembly, Phoenix.
Nov. 5-7—Conference of Food Service Directors, Hotel John Marshall, Richmond, Va.
Nov. 5-7—Iowa State Teachers' Association, Shrine Auditorium, Des Moines.
Nov. 6-7—Kansas State Teachers' Association, Topeka, Salina, Hays, Dodge City, Wichita and Coffeyville.
Nov. 6-9—New Jersey Education Association, Hotel Traymore, Atlantic City.
Nov. 11-13—West Virginia Education Association, Hotel Pritchard, Huntington.
Nov. 22-24—New York State Teachers' Association, House of Delegates, Hotel Commodore, New York City.
Nov. 24-27—Virginia Education Association, Hotel John Marshall, Richmond.
Nov. 26-28—National Council for the Social Studies, Hotel Pennsylvania, New York.
Nov. 28—Junior College Council of the Middle States, New York City.
Dec. 1—Southern Association of Junior Colleges, Memphis, Tenn.
Dec. 2-5—Missouri State Teachers Association, Muehlebach and President hotels, Kansas City.
Dec. 5—New England Junior College Council, Boston.
Dec. 28-30—Illinois Education Association, Springfield.
Dec. 28-30—New York State Association of Secondary School Principals, Hotel Onondaga, Syracuse.
Dec. 28-30—Pennsylvania State Education Association, Penn-Harris Hotel, Harrisburg.
Feb. 26-March 2—American Association of School Administrators, St. Louis.
Feb. 7-14—Negro History Week.

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An orientation course in air transportation, carrying full scholastic credit, is being offered to students of Iowa Wesleyan College, Mount Pleasant, Iowa, to prepare them for job opportunities in the coming flying age. The project is being undertaken by the college authorities in cooperation with Transcontinental and Western Air, Inc. One of the highlights of the course will be a series of nine lectures by recognized authorities in the field of aviation. Glenn L. Martin is scheduled as one of the first speakers. These lectures will be broadcast to high school classes over two Iowa stations, WSUI and KBUR.

NAMES IN NEWS

Superintendents

John W. Park has been named acting superintendent of public schools in Albany, N. Y., succeeding **Austin R. Coulson,** resigned. His former position as head of Philip Schuyler High School will be filled by **Stanley Heason.**

Mark W. Delzell, recently appointed superintendent of schools at Fairbury, Neb., has been called into active service with the Army Air Corps. **W. D. Fitton** has been named to succeed him.

Boyd W. Johnson has been promoted from the principalship of Clarendon High School, Clarendon, Ark., to the superintendency of Clarendon schools.

Jerome N. Johnson began his new duties as superintendent of Scranton High School, Fort Smith, Ark., on October 5.

S. O. Johnson has been named superintendent of schools at Fosston, Minn.

Supt. A. M. Jarman of Hunnewell public schools, Hunnewell, Mo., resigned recently. He was succeeded by **E. J. Powell.**

J. C. Sullivan has been named superintendent at Toccopola, Miss.

Howard Hutcheson has been released from his contract as head of the school system at Pleasantville, Ohio, to become superintendent at Georgetown, Ohio.

Supt. Charles A. Robison recently resigned from the school system of Prescott, Ark., to accept a position at Texas A. and M. College, College Station, Tex.

Jack M. Davis, superintendent of schools, Dodson, Tex., recently assumed new duties as head of the school system of Mobeetie, Tex.

Richard V. Melby has been selected as superintendent of schools at Henning, Minn., to succeed **Roy B. Aune.**

Joseph Walsh has been appointed acting superintendent of schools at Old Saybrook, Conn., to fill the place of **Creighton Magoun,** now in the Army.

Virgil Blossom, principal of the high school of Fayetteville, Ark., has been elevated to the position of superintendent of schools in that city.

J. L. Beard, superintendent of schools, Wellington, Tex., for the last three years, has resigned to head the schools of Childress, Tex. He was succeeded at Wellington by **Logan Cummings.**

County Superintendents

John W. Clarkson was recently made acting superintendent of schools, Marion County, Kentucky, succeeding **Hugh C. Spalding,** who was granted leave of absence to join the Army.

Lawrence R. Winchell, supervising principal of schools in the Vineland-Landis Township, N. J., for the last eight years, has been appointed superintendent of schools for Cumberland County, New Jersey.

W. J. Schallock has been appointed to succeed **Elsie Thompson** as county superintendent of schools, Vernon County, Wisconsin.

Clifford E. Dennis, supervising principal of schools, Hamburg, N. J., is the new county superintendent of schools, Sussex County, New Jersey.

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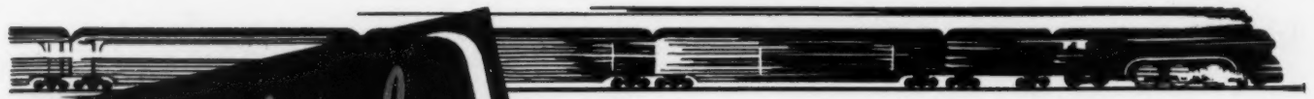

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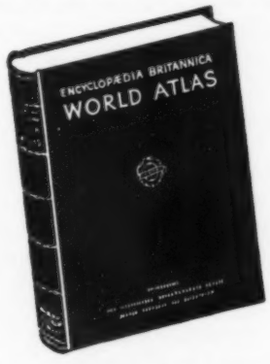

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Principals

John Hangen, formerly of Unionville, Conn., has recently been appointed principal of East Hampton High School, East Hampton, Conn.

Mrs. Ellen Foley, mathematics and science teacher, has been named acting principal of Fort Lee High School, Fort Lee, N. J., to fill the vacancy created by the enlistment of **Principal Lewis Cole** in the Army.

Mrs. Katharine Rolfe has accepted the post of principal of Newfield High School, Newfield, Me.

Sister Petrona has been selected as principal of St. Francis High School for Girls, LaFayette, Ind., replacing **Sister M. Ignatia,** who has been granted a leave of absence.

John H. Eberly of Huntington, Ind., has been selected as the new principal of Jefferson Township High School, which is located near Berne, Ind. He succeeds **Richard Ringham,** who accepted a similar position at Monmouth, Ill.

Bertrand W. Hayward, principal of Stearns High School, Millinocket, Me., has been selected to head the Sanford High School, Sanford, Me.

Flora S. White, principal of Versailles Avenue School, McKeesport, Pa., announced her retirement from the teaching profession recently. Another McKeesport principal whose resignation was announced at the same time is **J. F. Snyder** of Walnut Street School.

George B. Walter has been named principal of Washington Park High School, Racine, Wis., succeeding the late **Walter Hood.**

In the Colleges

Dean Scott H. Goodnight, director of the summer session at the University of Wisconsin, recently tendered his resignation from that position because of his health. **Dr. John Guy Fowlkes** of the school of education was named to succeed him.

Dr. John Richie Schultz, dean of men, Allegheny College, Meadville, Pa., since 1930, has assumed the position of acting president of the college, filling a vacancy created by the resignation of **Dr. William Pearson Tolley.**

Dr. John E. Brewton has been named dean of the graduate school of Peabody College, Nashville, Tenn.

Dr. John Barlow, member of the faculty of Rhode Island State College, Kingston, R. I., since 1902, will be retired as dean-emeritus this fall upon attaining the age of 70. Doctor Barlow, who is vice president of the school and also dean of the school of science and business and dean of men, has twice served as acting president of the college. He will be succeeded by **Dr. Harold W. Browning.**

Miscellaneous

Dr. Thomas C. Holy has been named director of the bureau of educational research at Ohio State University, succeeding **Dr. W. W. Charters,** who retired from active duty in that position on August 31.

Dr. Albert H. Collins, Alabama state superintendent of education, has been appointed state director of the Office of Price Administration for Alabama, succeeding **Houston Cole.**

Deaths

Russell Scotten, superintendent of schools, Schuyler County, Missouri, died of a heart attack recently.

J. Fred McMurray, principal of Roosevelt Junior High School, Newberry, Pa., died recently at the age of 58.

Dr. William H. Thomas, for thirty years superintendent of the Lott Carey School in Brewerville, Liberia, West Africa, died early in September.

W. R. Lebold, principal of Cambridge High School, Cambridge, Ohio, died recently after a long illness.

James A. Crowley, master of the Robert Gould Shaw School, West Roxbury, Mass., died recently.

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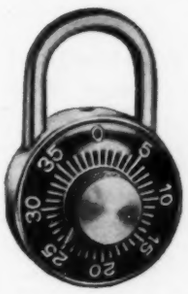

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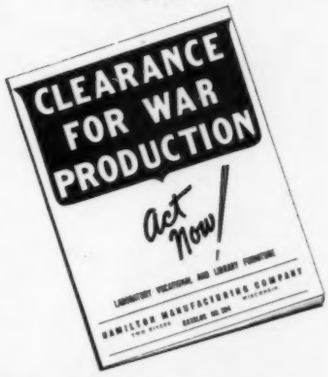

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The Bookshelf

General

AN INVESTIGATION OF INSURANCE PRACTICES. *By H. C. Roberts and Others, Research Committee of the National Association Public School Business Officials,* 1941. *H. W. Cramblet, secretary, Board of Education,* Pittsburgh. *Pp.* 293. *(Paper Cover.)*

THE SOCIAL STUDIES IN THE ELEMENTARY SCHOOL. *Edited by William E. Young. Twelfth Yearbook, National Council for the Social Studies. Washington, D. C.: National Education Association.* 1941. *Pp.* xx+243.

EXPERIMENT—*By Schools, Radio and Government. Department of the Interior. Washington, D. C.: U. S. Government Printing Office,* 1941. *Pp.* 80. $0.20.

RETROACTIVE INHIBITION. *A Review of the Literature. By Esther J. Swenson. Minneapolis: University of Minnesota Press,* 1941. *Pp.* 59.

WORK EXPERIENCE IN EDUCATION. *Edited by Warren C. Seyfert and Paul A. Rehmus. Cambridge, Mass.: Harvard Graduate School of Education,* 1941. *Pp.* ix+65. $0.50.

THE GRAPHIC ARTS. *By William H. Johnson and Louis V. Newkirk. New York: The Macmillan Company,* 1942. *Pp.* 160. $1.32 *(Paper Cover)*

MORE FOR YOUR MONEY. *By Carol Willis Moffett. New York: Public Affairs Committee, Inc.,* 1941. *Pp.* 31. $0.10 *(Paper Cover).*

PROCEEDINGS OF THE THIRTIETH ANNUAL MEETING OF THE NATIONAL ASSOCIATION OF PUBLIC SCHOOL BUSINESS OFFICIALS, 1941. *H. W. Cramblet, Board of Education, Pittsburgh, Secretary.*

THE PSYCHOLOGY OF LEARNING. *Part II. Prepared by T. R. McConnell and Others. Bloomington, Ill.: Public School Publishing Company,* 1942. $3.25, *cloth;* $2.50, *paper.*

Professional

READING IN THE INTERMEDIATE GRADES, *IV, V and VI. Prepared by Gertrude Whipple and Committee. Ninth Research Bulletin of the National Council on Research in English. Chicago: Scott, Foresman and Company,* 1941. *Pp.* 80. $0.80.

PROCEEDINGS OF THE NINETEENTH ANNUAL MEETING OF THE NATIONAL COUNCIL ON SCHOOLHOUSE CONSTRUCTION, *Nov.* 10-13, 1941. *Pp.* 59. $0.50. *Copies can be obtained from Ray L. Hamon, Peabody College, Nashville, Tenn.*

Research

RESEARCH STUDIES OF THE STATE COLLEGE OF WASHINGTON. *Condensations of Fourteen Masters' Theses in Education. Pullman, Wash.: State College of Washington,* 1941. *Pp.* 261-348. *(Paper Cover.)*

BIBLIOGRAPHY OF RESEARCH STUDIES IN EDUCATION, 1939-1940. *Prepared by Ruth A. Gray. Washington, D. C.: United States Office of Education,* 1941. *Pp.* xiv+404. $0.50 *(Paper Cover).*

Tests

PHYSICAL ABILITY TEST *(Males). By G. M. Gloss. New York City: New York University Bookstore* (18 *Washington Place*), 1942. *Packages of* 10 *Tests,* $1; 100, $9; 500, $35; 1000, $50.

TERMAN-MCNEMAR TEST OF MENTAL ABILITY. *Forms C and D. By Lewis M. Terman and Quinn McNemar. Yonkers-on-Hudson, N. Y.: World Book Co.,* 1942. *Package of* 25, $1.25; *specimen set,* $0.20.

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STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACTS OF CONGRESS OF AUGUST 24, 1912, AND MARCH 3, 1933

Of THE NATION'S SCHOOLS, published monthly at Chicago, Illinois, for October 1, 1942.

State of Illinois } ss.
County of Cook }

Before me, a Notary Public in and for the State and county aforesaid, personally appeared James G. Jarrett, who, having been duly sworn according to law, deposes and says that he is the Business Manager of The Nation's Schools, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business manager are:

Publisher: The Nation's Schools Publishing Co., Inc., Chicago, Illinois.
Editor: Arthur B. Moehlman, Ann Arbor, Mich.
Managing Editor: Raymond P. Sloan, New York, N. Y.
Business Manager: James G. Jarrett, Chicago, Illinois.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

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3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) There are no bondholders, mortgagees, or other security holders.

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J. G. JARRETT, Business Manager.

Sworn to and subscribed before me this 23rd day of September, 1942.
[SEAL] J. P. McDERMOTT, Notary Public.
(My commission expires Sept. 30, 1945.)

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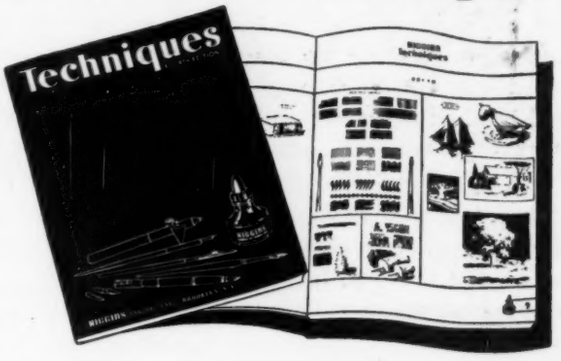

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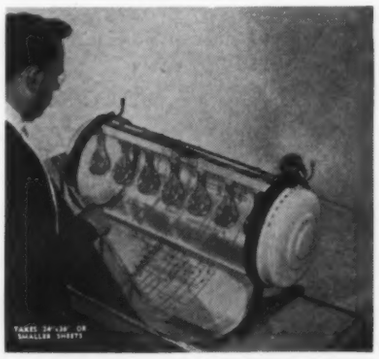

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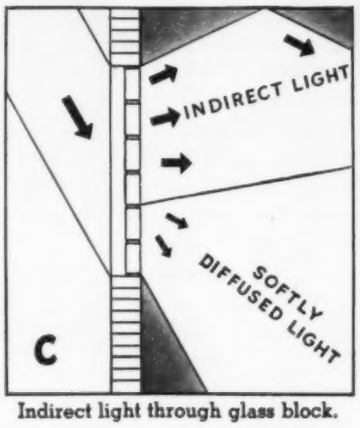

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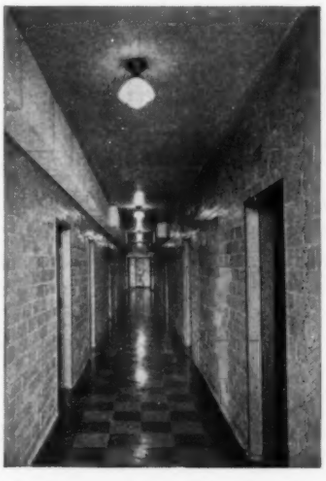

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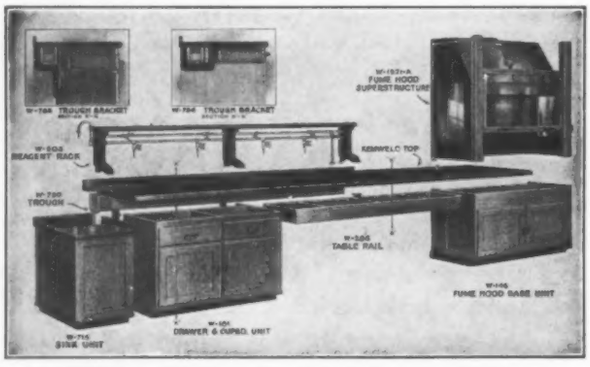

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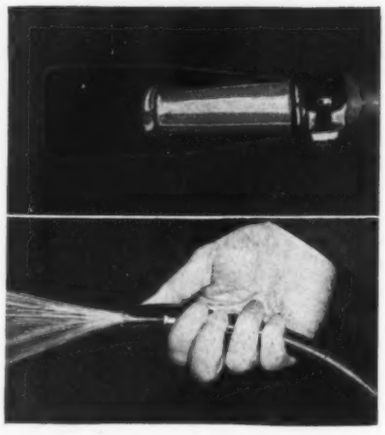
• *When inquiring, refer to* **NS1312**

"Thumb Spray" for Extinguishers

Converts Fire Extinguishers to War-Time Needs



Magnesium incendiary bomb and other emergency fires are usually fought with a spray of extinguishing fluid. Pyrene Manufacturing Company has recently developed a "thumb-spray" nozzle attachment for converting extinguisher equipment to war-time needs when it is clamped over the ⅜ inch hose and nozzle of any standard soda-acid gas cartridge or pump tank fire extinguisher. The normally solid stream is converted into a spray by applying pressure with the thumb at the end of the attachment.

Made of spring steel with a deflector edge that adjusts the range and distribution of the spray for maximum effectiveness, this safety device is designed for use on fires that can be approached within 6 or 8 feet. No adjustments are necessary and the nozzle is said to throw a forceful, well-distributed spray of maximum safe range which supplies adequate moisture and wets down immediate surroundings against the spread of the fire.—**Pyrene Manufacturing Company, 560 Belmont Avenue, Newark, N. J.**

• *When inquiring, refer to* **NS1313**

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Make Interiors Safe During Blackouts

Swing shifts, even graveyard shifts, are now the rule in schools as well as in war production factories. Now and then interruptions come in the form of blackouts. Whether the blackout is a test or the real thing it isn't feasible to plunge a building into pitch blackness for serious accidents and thievery may result.

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What are they? They are strong shells of natural col-

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ored glass that can be slipped over an ordinary light bulb. The colors—they won't fade—are blue, green, amber, purple and canary. Reco hoods help protect the bulb from breakage, too, and when a bulb burns out they can be transferred to the new one.

Prices are not high—from 20 cents each up—and no priority is required with orders.—**Reynolds Electric Company, 2650 West Congress Street, Chicago.**

• *When inquiring, refer to* **NS1314**

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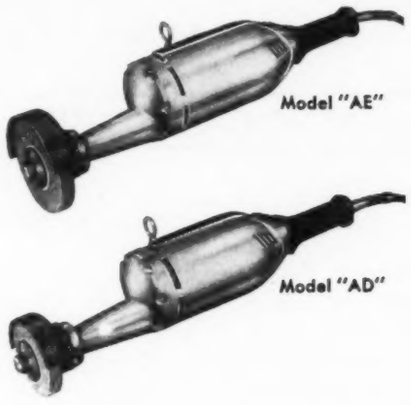
Full efficiency at high speed is assured with both Model AD and Model AE portable grinders, says Skilsaw, Inc. Adaptable to a wide variety of uses, both machines are engineered to meet high speed requirements on all grinding,



wire brushing, polishing and buffing operations. Cool operation is assured by ball bearings mounted in steel inserts on the armature and extreme ends of the wheel spindle. The commutator and switch are enclosed for protection against dust.—**Skilsaw, Inc., 121 West Wacker Drive, Chicago.**

• *When inquiring, refer to* **NS1315**

Improved Fluorescent Lamp Starter

Has Advantage on Automatic Starter

Another step forward in the quick pace of development of fluorescent lighting is a manual-reset starter, called the "Master No Blink," which locks dead lamps out of the circuit and thus permits instant replacement of dead lamps, General Electric announces.

In the automatic starter, a flow of current is required to keep the dead lamp from flickering but in the Master No Blink no current flows through the ballast after the dead lamp has been locked out. This cut-off of current prolongs the life of the ballast and eliminates the cooling period required before lamps can be replaced.

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Quick, effortless cleaning that removes embedded grime *the safe way*—making all floors and painted or varnished surfaces sparkle with renewed color brightness. No wonder BRITEN-ALL is replacing time and money wasting cleaning methods in hundreds of America's schools. Maintenance departments say BRITEN-ALL is unequalled for efficiency, speed, safety and economy. One trial will convince you.

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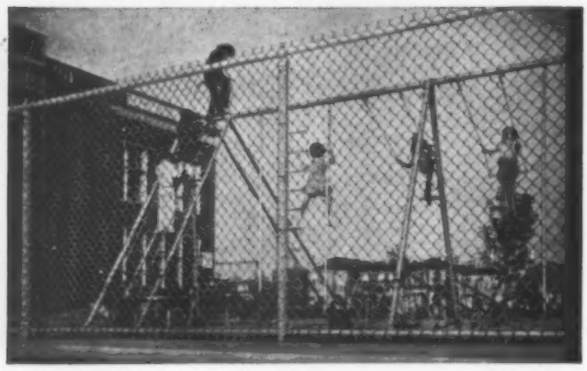

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WHAT'S NEW for SCHOOLS

being removed from the fixture. Lamps can be changed without shutting off the current. The new starter comes in 30, 40 and 100 watt sizes.—**General Electric Company, 570 Lexington Avenue, New York City.**

• *When inquiring, refer to* **NS1316**

Carbon Dioxide Engine

Smothers Electrical Fires Instantly

Underwriters' and Association Factory Mutual laboratories approve only one 100 pound engine for use on flammable liquids and electrical fires, both of which are particularly hazardous. This is the new Alfire carbon dioxide engine, which also is equipped with an Anti-Statik horn to protect the operator from static charge. It smothers fire instantly with carbon dioxide gas which expands upon discharge to 450 times its stored volume. Noncorrosive, nonpoisonous, odorless.—**American-LaFrance-Foamite Corporation, Elmira, N. Y.**

• *When inquiring, refer to* **NS1317**

NEW CATALOGS

Machine Tools

Low Cost and Economical Operation Featured

Machine tools for innumerable operations are described and illustrated in the Industrial Catalog No. 10 of **Delta Manufacturing Company, 600-634 East Vienna Avenue, Milwaukee.** Some of the features of these tools to which attention is called in the catalog are low first cost, portability, flexibility and adaptability.

• *When inquiring, refer to* **NS1318**

Wet-Dry Belt Surfacing

Method Saves Time, Money, Manpower

Detailed information concerning the advantages of wet-dry abrasive belt surfacing is contained in a new manual issued by **Porter-Cable Machine Company, Syracuse, N. Y.** Belt surfacing is said to speed up production by relieving and supplementing major machine tools. It can be applied to hard and soft metals, plastics, glass, ceramics, wood, bone, tile, hard rubber, fiber and other materials. Cutting speed and finish desired are governed by the selection of the types, density or coarseness of the abrasive belt used.

• *When inquiring, refer to* **NS1319**

Welded Hot Water Heaters

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"Tabasco" all-weld hot water heaters that deliver plenty of hot water, using any fuel, are described by **Kewanee Boiler Corporation, Kewanee, Ill.,** in Catalog TW-956. Built in 10 sizes, Tabascos can be connected directly to the water mains of any city in the country and will safely withstand water working pressures up to 100 pounds per

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WHAT'S NEW for SCHOOLS

square inch. The all-weld model is equipped with an improved steel base and rocking grate. The hourly ratings of the Tabasco models range from 130 to 700 gallons of water raised in temperature 50° F. per hour.

• *When inquiring, refer to* **NS1320**

Maps, Globes, Charts, Models

Visual Aids to Citizenship

"Our Democracy," a new series of 16 wall charts, is introduced in Catalog 18, recently published by **Denoyer-Geppert, 5235 Ravenswood Avenue, Chicago.** The subjects covered in the series range from "Our Heritage of Freedom From Old England," showing the origin of the common law, to "Our Democracy's Place in the World," pointing out the problem of isolation *versus* cooperation. Other visual aids listed in the new catalog include social science, history and geography wall maps, student aids for social studies, globes and biology aids.

• *When inquiring, refer to* **NS1321**

Toolroom, Engine and Turret Lathes

Specifications Facilitate Selection of Lathes

A new catalog describing the entire line of engine lathes, toolroom lathes and turret lathes has just been published by **South Bend Lathe Works, Dept. N1, South Bend, Ind.** The engine and toolroom lathes range in size from 9 inch to 16 inch swings and the turret lathes are made in three sizes: 9, 10 and 16 inch swings. Specifications are tabulated to facilitate the selection of the lathe required for any application. Attachments, tools and accessories for adapting these lathes to special classes of work are also illustrated.

• *When inquiring, refer to* **NS1322**

FILM RELEASES

Films of Britain at War—A catalog of 167 films, all but 20 of which have been made since the outbreak of the war. The films are listed under nine major headings: Armed Services; Britain's Allies; British Commonwealth of Nations; Civilian Defense; the Farm Front; the Home Front; the Industrial Front; Transport and Communications, and Women in War. 16 mm. sound and silent.—**British Information Service, 30 Rockefeller Plaza, New York City.**

• *When inquiring, refer to* **NS1323**

Soviet Flm Catalog—New catalog of current listings of Soviet films, comprising 39 features and feature-length documentaries and 75 shorts, including news reels. The features are classified under the general headings of "Russia at War," "Modern Russia," "History of the Russian People" and "Founding of the Soviet Republic."—**Artkino Pictures, Inc., 723 Seventh Avenue, New York City.**

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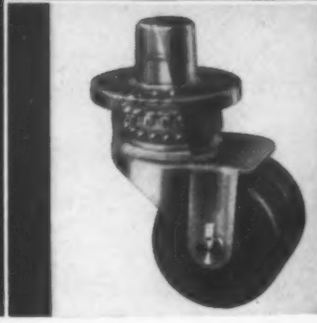

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Life in Old Louisiana—Representative aspects of Louisiana and its key city, New Orleans, during the years of Creole dominance are portrayed. Historic and regional factors woven into the film include the Mississippi River, cotton and cane plantations, slavery, architecture and music.—**Erpi Classroom Films, Inc., 1841 Broadway, New York City.**

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Free Loan Sound Film Library—1942-43 catalog of Burton Holmes free loan films. Listings include "How to Run a Lathe" series; "Turret Lathes"; "More Life in Living"; "America Learns to Fly"; "Fifty-Two Pay Checks Each Year," and "Industry for Health."—**Burton Holmes Films, Inc., 7510 North Ashland Avenue, Chicago.**

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Movies to Help Win the War—Comprehensive catalog of 16 mm. sound and silent films to meet the needs of visual education directors and others who are interested in obtaining important films bearing on the war.—**Brandon Films, Inc., 1600 Broadway, New York City.**

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This Is India—Presents an insight into the complex pattern of humanity that is India and provides an understanding of the situation that confronts the United Nations in their "tug of war" with the Axis over this country. 16 mm. sound.—**Walter O. Gutlohn, Inc., 35 West Forty-Fifth Street, New York City.**

• *When inquiring, refer to* **NS1329**

Winning Your Wings—16 mm. sound film. Running time, 18 minutes. Lt. James Stewart, U. S. Army Air Corps, explains the work of the air force, requirements for enlistment and benefits to be derived from the program. Produced by Warner Brothers.—**Bureau of Motion Pictures, Office of War Information, Washington, D. C.**

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Target for Tonight.—Feature picture filmed under fire by the R.A.F. This 16 mm. sound film has a cast consisting of R.A.F. fliers and ground staff and is said to build up to a breathtaking climax.—**Walter O. Gutlohn, Inc., 35 West Forty-Fifth Street, New York City.**

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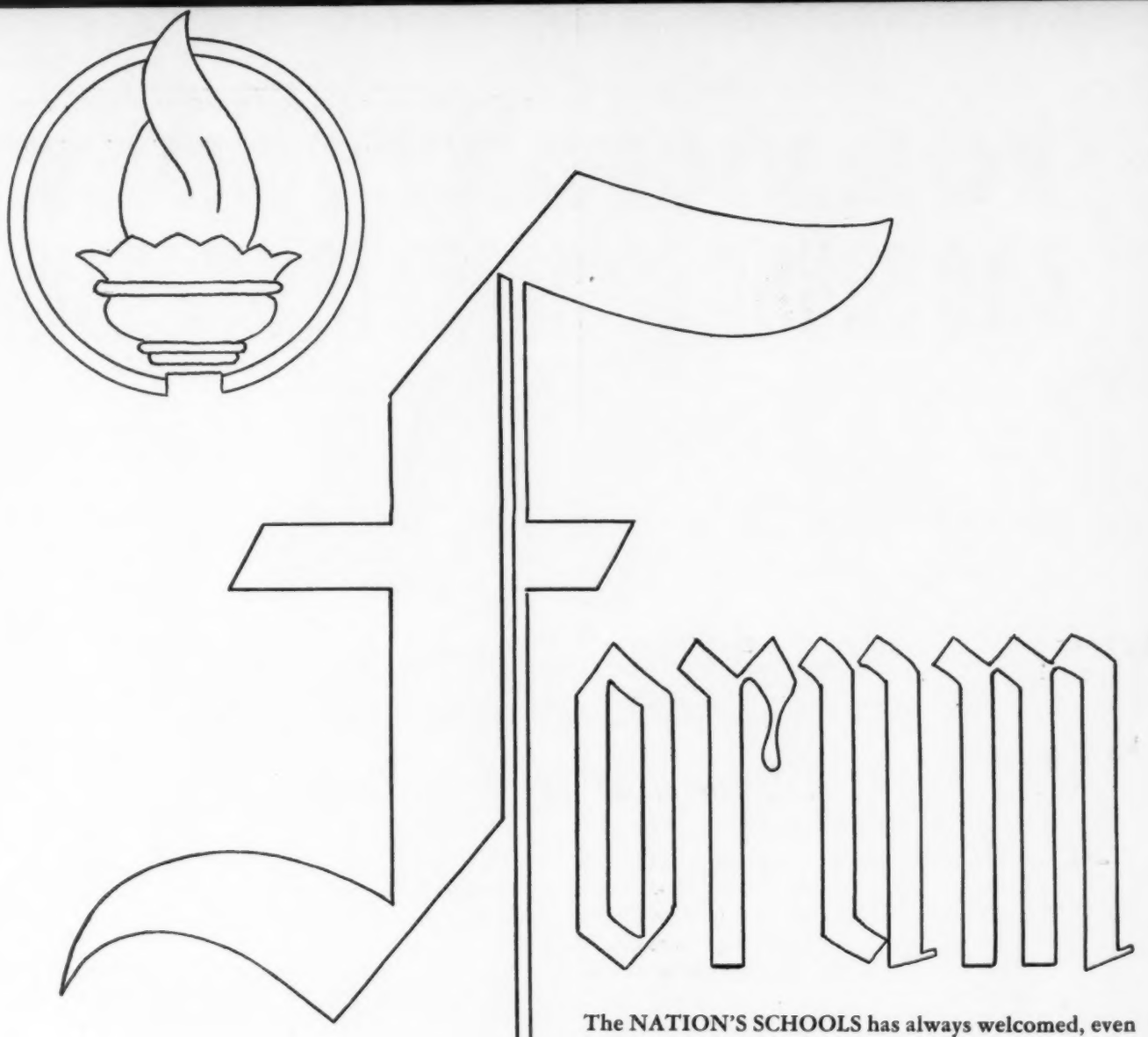

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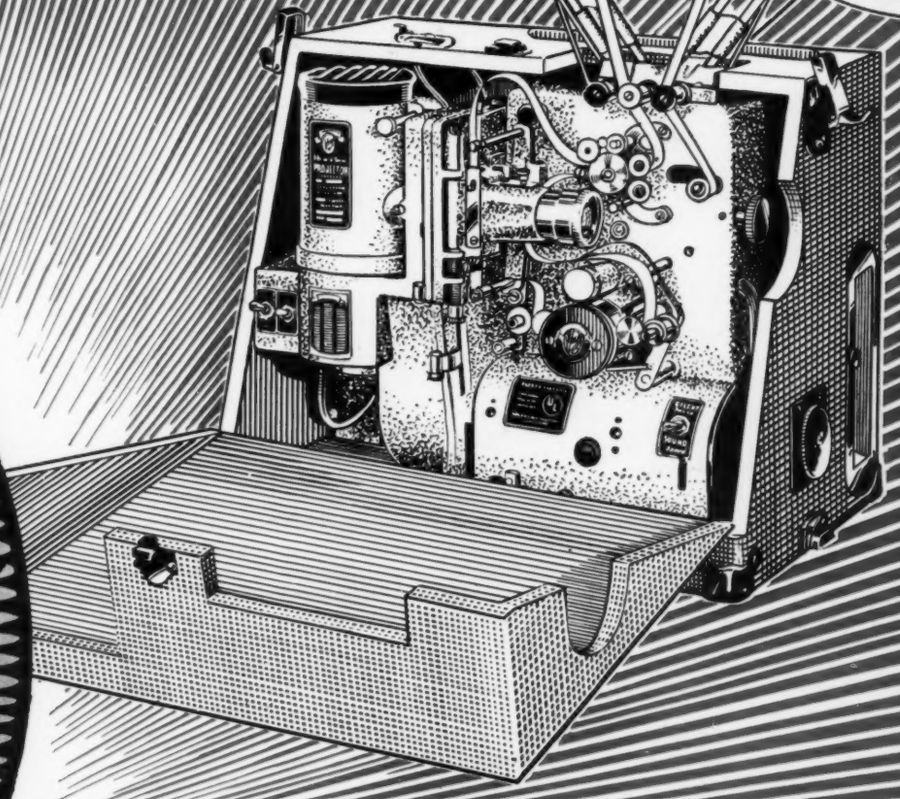

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